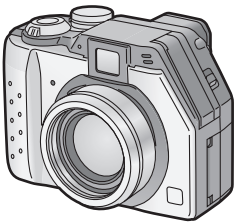
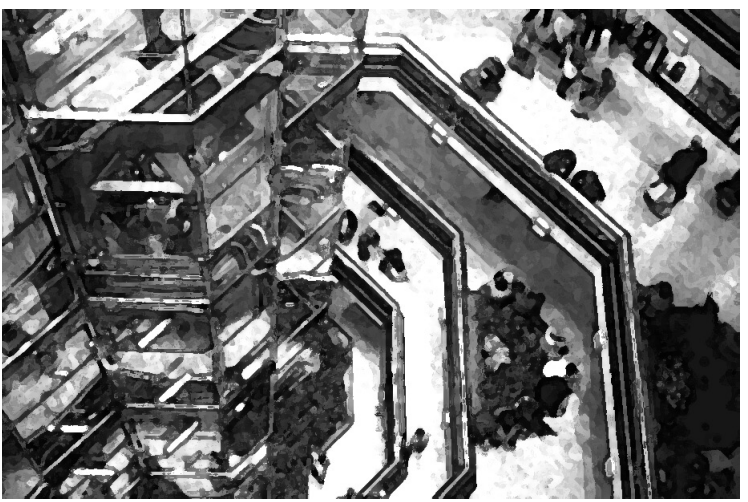
Panasonic®



Digital Camera

Operating Instructions

Model No. DMC-LC40PP



Before use, please read these instructions completely.

MultiMediaCard™

LEICA
DC VARIO-SUMMICRON

For USA assistance, please call: 1-800-272-7033 or send e-mail to : consumerproducts@panasonic.com

For Canadian assistance, please call: 1-800-561-5505 or visit us at www.panasonic.ca

VQT9861

Dear Customer,
We would like to take this opportunity to thank you for purchasing this Panasonic Digital Camera. Please read these Operating Instructions carefully and keep them handy for future reference.

Information for Your Safety

WARNING
TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE ONLY THE RECOMMENDED ACCESSORIES AND DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE. DO NOT REMOVE THE COVER (OR BACK); THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Notice:
This product has parts that contain a small amount of mercury. It also contains lead in some components. Disposal of these materials may be regulated in your community due to environmental considerations. For disposal or recycling information please contact your local authorities, or the Electronics Industries Alliance: <http://www.eiae.org.>

Carefully observe copyright laws. Recording of pre-recorded tapes or discs or other published or broadcast material for purposes other than your own private use may infringe copyright laws. Even for the purpose of private use, recording of certain material may be restricted.

- Please note that the actual controls and components, menu items, etc. of your Digital Camera may look somewhat different from those shown in the illustrations in these Operating Instructions.
- SD Logo is a trademark.
- Other names, company names, and product names printed in these instructions are trademarks or registered trademarks of the companies concerned.

A lithium ion/polymer battery that is recyclable powers the product you have purchased. Please call 1-800-8-BATTERY for information on how to recycle this battery.

FCC Note: (U.S. only)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

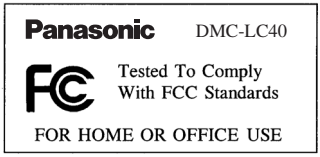
FCC Caution: To assure continued compliance, follow the attached installation instructions and use only shielded interface cables with ferrite core when connecting to computer or peripheral devices.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Trade Name:	Panasonic
Model No.:	DMC-LC40
Responsible party:	Matsushita Electric Corporation of America One Panasonic Way, Secaucus, NJ 07094
Support Contact:	Panasonic Consumer Electronics Company 1-800-272-7033

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This Class [B] digital apparatus complies with Canadian ICES-003.



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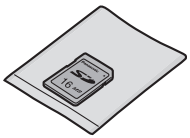
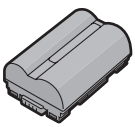
Standard Accessories

Before using your camera, check the contents.

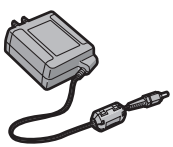
1 SD Memory Card (16 MB)
RP-SD016B



2 Battery Pack
CGR-S602A

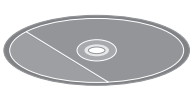


3 AC Adaptor
DE-877B



4 USB Connection Kit
(Consists of)

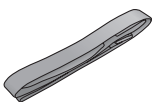
USB Connection Cable
K1HA05CD0001



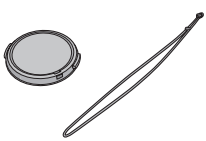
CD-ROM
VFF0144

5 A/V Cable
K1V204C20002

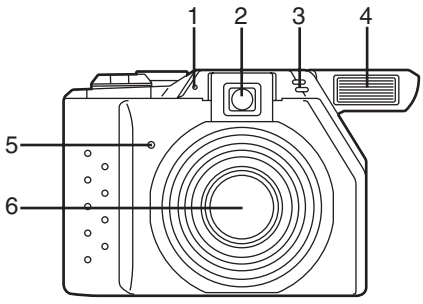
6 Strap
VFC3868



7 Lens Cap
VYK0B77
Lens Cap String
VFC3893

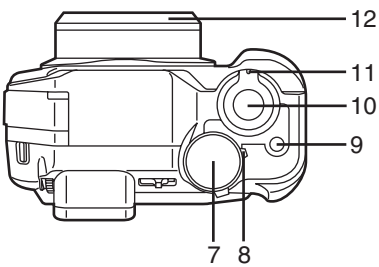


Names of the Components



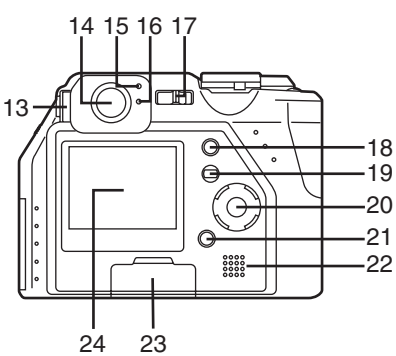
[Front View]

1 Flash Sensor (P35)
2 Optical Finder (P19)
3 Microphone (P37, P72)
4 Flash
5 Self-timer Indicator (P36)
6 Lens



[Up View]

7 REC Mode Dial (P25)
8 Operational Mode Dial (P25)
9 Flash Mode Button (P34)
10 Shutter Button (P24)
11 Zoom Lever (P32, P33)
12 Lens Ring (P58)

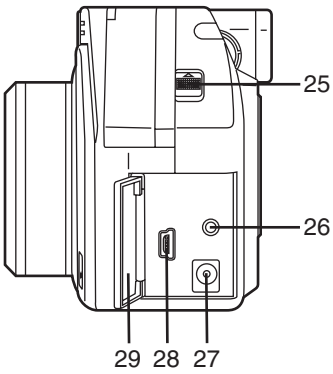


[Back View]

13 Diopter Adjustment Dial (P19)
14 Optical Finder (P19)
15 Status Indicator (P23)
16 Flash/Access Indicator (P17, P23)
17 Power Switch (P18)
18 DISPLAY Button (P22)
19 MENU Button (P27)
20 Cursor (▲/ ▼/ ◄/ ►) Buttons
21 REVIEW/SET Button (P30)
22 Speaker (P60)
23 Memory Card Door (P16)
24 LCD Monitor (P10)

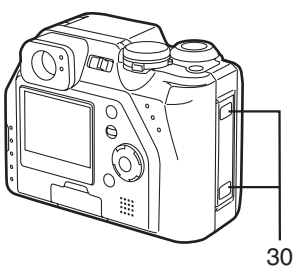
[Left View]

25 Flash Open Lever (P34)
26 A/V OUT Socket (P82)
27 DC IN Socket (P14)
28 USB Socket (5pin) (P84)
29 Terminal Door (P14)



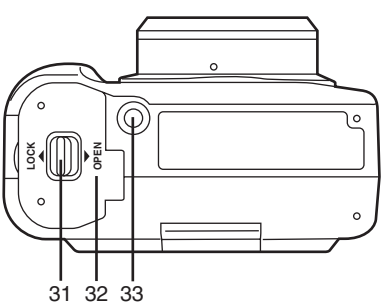
[Right View]

30 Strap Hole (P20)

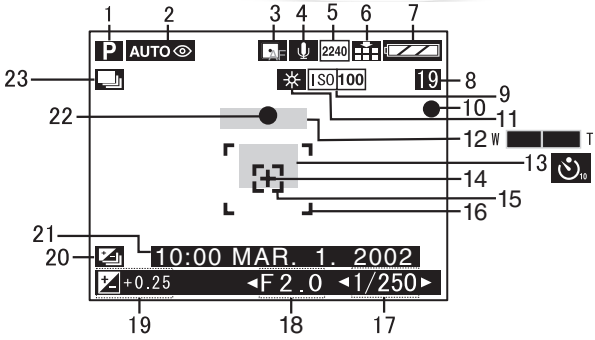


[Bottom View]

31 Battery Door Open/Lock Lever (P13)
32 Battery Door (P13)
33 Tripod Receptacle (P21)



LCD Monitor Display



[In recording]

1 REC mode

- A: AUTO (P29)
- P: Program AE (P40)
- A: Aperture-priority AE (P41)
- S: Shutter-priority AE (P42)
- Macro mode (P56)
- Portrait mode (P43)
- Landscape mode (P44)
- Sports mode (P45)
- Night portrait mode (P46)
- Spot mode (P47)
- Motion image mode (P31)

2 Flash mode (P34)

- AUTO: AUTO
- AUTO: AUTO/Red-eye reduction
- :Forced ON
- SLOW: Slow sync./Red-eye reduction
- :Forced OFF

3 :Spot AF (P55)

4 : Audio REC (P37)

5 Picture size (P38)

- 2240 :2240 × 1680
- 1600 :1600 × 1200
- 1120 :1120 × 840
- 640 : 640 × 480

6 Quality (data compression ratio) (P39)

- : Fine (low compression)
- : Standard (standard compression)
- TIFF: TIFF (incompression)

7 Battery indicator (P14)
(When using AC adaptor this is not displayed)

8 Frame/Time remain
In motion image mode: XXXS

9 ISO sensitivity (P54)
No: AUTO

- ISO100
- ISO200
- ISO400

10 : Recording indication

11 White balance (P52)
No: AUTO

: Daylight

: Cloudy

: Halogen

: Fluorescent

: Flash

: White set

12 Zoom (P32, P33)

(digital zoom ON:)

13 Self-timer mode (P36)

: 2 seconds

: 10 seconds

14 : Spot metering target (P47)

15 : Spot AF area (P47, P55)

16 : Focus area (P29)

17 Shutter speed indication (P42)

18 Aperture indication (P41)

19 Exposure compensation (P48)

20 Auto bracket (P49)

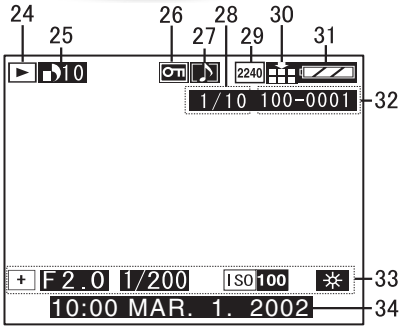
: Auto (AE) bracket

21 Current date and time (P28)
It is displayed for about 5 seconds when starting/after setting the REC mode/after setting the time.

22 : Focus indication (P29)

23 : Burst mode (P57)

[In playback]



24 : Playback mode

25 DPOF [ ] (P66)

(White):
DPOF setting for printing

(Green):
DPOF setting for Slide Show

(Green with DPOF number):
DPOF setting for printing and Slide Show

26 : Protected image (P69)

27 : Image with audio (P60)

28 Page/Total images

29 Picture size (P38)
(Reference 5)

30 Quality (data compression ratio) (P39)
(Reference 6)

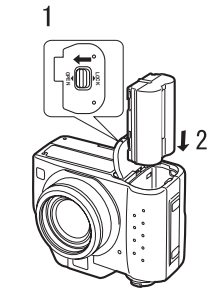
: In motion image mode

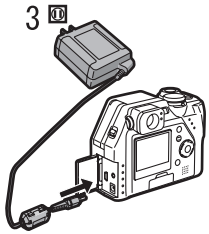
31 Battery indicator (P14)
(Reference 7)

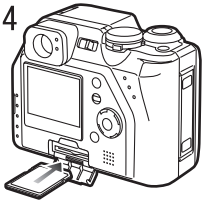
32 Folder/File number

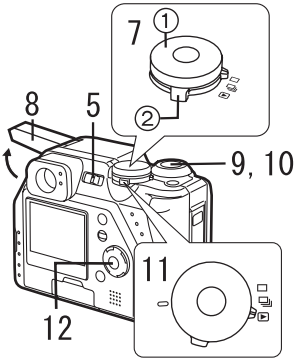
33 REC data
It will be displayed when the [DISPLAY] button is pressed.

34 Recorded date and time









Prepare the following items.

- Camera
- Battery
- Memory card
- AC adaptor

Check that the power switch is set to [OFF].

1 **Slide the lever in the direction of the arrow to open the battery door.**

2 **Insert the battery into the camera. (P13)**

3 **Connect the AC adaptor to the camera to charge the battery. (P14)**

4 **Insert the memory card into the camera. (P16)**

5 **Set the power switch to [ON]. (P18)**

6 **Set date/time. (P28)**

7 **Set the operational mode dial ② and the REC mode dial ①. (P25)**

- Set the operational mode dial to single mode [□] or burst mode [□ₙ].

8 **Slide the flash open lever to open the Flash. (P34)**

9 **Press the shutter button halfway to set the focus. (P24)**

10 **Press the shutter button fully to take a picture. (P24)**

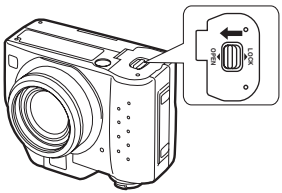
[Playback]

11 **Set the operational mode dial to playback [▶]. (P59)**

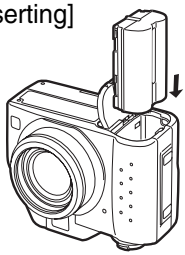
12 **Press ◄/► to select the picture you want to view.**

Inserting the Battery

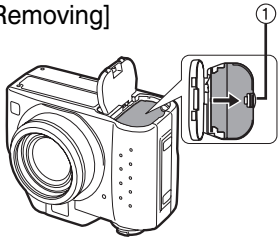
1



2 [Inserting]



3 [Removing]



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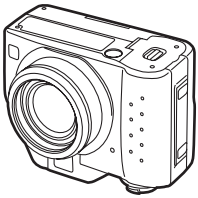


[Preparation]

- Set the power switch to [OFF].

1 **Slide the lever in the direction of the arrow to open the battery door.**

2 **Insert the battery all the way in, until it is locked.**

3 **Close the battery door.**

4 **Slide the lever to lock the battery door.**

[Removing the battery]

1 **Slide the lever in the direction of the arrow to open the battery door.**

2 **Press the lock ① in the direction of the arrow to remove the battery.**

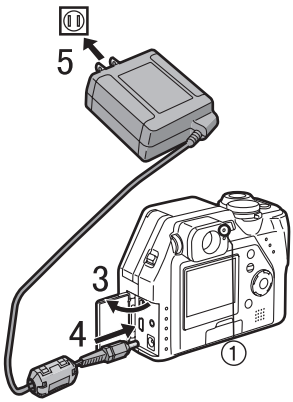
3 **Close the battery door.**

4 **Slide the lever to lock the battery door.**

- If you will not be using the camera for a long time, remove the battery. (When you insert the battery again, set the date)
- Before removing the battery from the camera, set the power switch to [OFF].
- The battery supplied with this camera is exclusively designed for this camera. Do not use with any other equipment.

CAUTION
Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Charging the Battery



1 **Set the power switch to [OFF].**

2 **Insert the battery into the camera. (P13)**

3 **Open the terminal door.**

4 **Insert the connection plug of the AC adaptor into the DC IN socket of the camera.**

THE SOCKET OUTLET SHALL BE INSTALLED NEAR THE EQUIPMENT AND SHALL BE EASILY ACCESSIBLE.

5 **Plug the AC adaptor into the electrical outlet.**
- The green status indicator ① blinks and charging starts.

6 **When the status indicator stops blinking, charging is complete.**
- After charging is finished, remove the AC adaptor from the electrical outlet and then remove the connecting plug from the DC IN socket.

■ Battery indicator

The remaining battery power is displayed on the LCD monitor. (This is not displayed when using AC adaptor)

: The battery power is sufficient

: The remaining power is a little low

: The remaining power is low

: Recharge or replace the battery

■ Charging time and available recording time
(LCD on, shooting once every 30 seconds, flash every other shot. Measured using supplied 16 MB SD Memory Card)

	Ⓐ	Ⓑ
Supplied battery pack	Approx. 120 min.	In setting LCD monitor to ON Approx. 150 min. (equal to 300 still pictures)
		In setting LCD monitor to OFF Approx. 180 min. (equal to 360 still pictures)

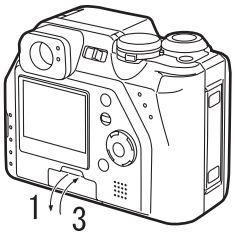
Ⓐ Charging time
Ⓑ Continuous recording time (recordable number)

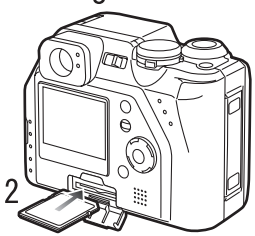
■ Charging environment and charging error
- Charge the battery in a place with a temperature of 50 - 95 F (10 - 35 °C). (The battery should also be the same temperature)
- When charging starts, the status indicator blinks at about 2 second cycles. If, after charging starts, the status indicator blinks quicker, this indicates a charging error.
  In this case, remove the AC adaptor from the electrical outlet, remove the battery and check if both room and battery temperature is too low or high and then charge it again. (It is not possible to cancel the error by only turning the power off/on.) If the problem persists, consult the dealer or your nearest servicentre.

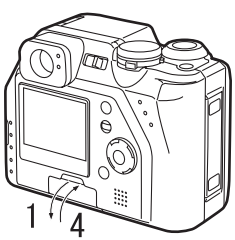
Connecting to an Electrical Outlet

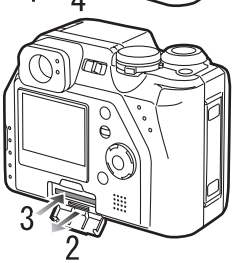
If you use an AC adaptor and connect it to an electrical outlet, you can use the camera without worrying about battery discharge. The connection method is the same as explained in “Charging the Battery”. (P14)
- During use, the camera becomes warm; this is not a malfunction.

Inserting the Card









[Preparation]

- Set the power switch to [OFF].

1 **Open the memory card door.**

2 **Insert the card all the way in until it clicks.**

- Check the direction of the card.

3 **Close the memory card door.**

[Removing the card]

1 **Open the memory card door.**

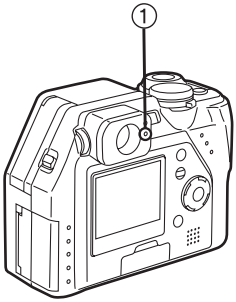
2 **Press the card to release.**

3 **Pull the card out.**

4 **Close the memory card door.**

- Do not touch the connection terminals on the back side of the card.
- If the memory card door cannot completely close, take the card out and insert it again.
- If the card cannot be fully inserted, verify whether the direction of the card is correct.
- We recommend that you use a Panasonic branded SD Memory Card. (Use only the genuine card)

■ Access to the card



When the card is being accessed, the red flash/access indicator ① lights.

When the flash/access indicator lights, do not remove the battery, open the memory card door, or pull out the card. The card and the card contents may be destroyed and the camera may not operate normally.

There is a risk that the data on the card may be damaged or erased due to the electrical noise, static electricity or the defects of camera/card, please back up your data to your PC using USB connection. (P84)

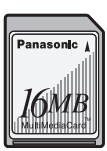
■ SD Memory Card (supplied) and MultiMediaCard (optional)

The SD Memory Card and MultiMediaCard are small, lightweight, removable external cards. The SD Memory Card is equipped with a write protection switch that can inhibit writing and formatting. (When the switch is moved towards the [LOCK] side, it is not possible to write or delete data on the card and format it. When the switch is unlocked, these functions become available)

SD Memory Card

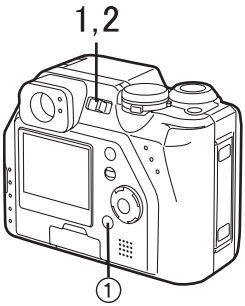
- RP-SDH512 (512MB)
- RP-SDH256 (256MB)
- RP-SD128 (128MB)
- RP-SD064B (64MB)
- RP-SD032B (32MB)
- RP-SD016B (16MB)
- RP-SD008B (8MB)

MultiMediaCard



- After recording motion images using the MultiMediaCard, the screen may appear grey, but this is not a malfunction.

Turning Power on/off

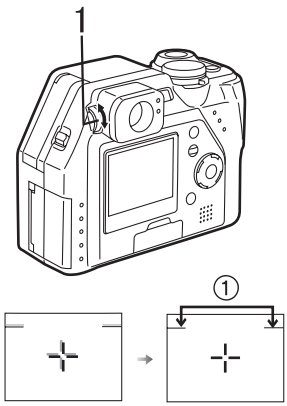


1 **Set the power switch to [ON].**
- The status indicator lights.

2 **Set the power switch to [OFF].**

- When switching the power on/off, do not put any obstacle in front of the lens.
- Please be sure to remove the lens cap (P20) before you switch on the camera in recording mode. If not, the message “REMOVE LENS CAP AND PRESS SET BUTTON” appears on the LCD monitor. Please remove the lens cap and press [REVIEW/SET] button ①.

Adjusting the Optical Finder (Diopter Adjustment)

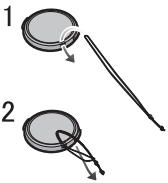


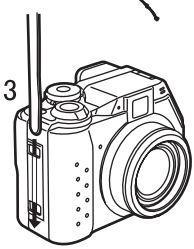
This camera's optical view finder offers a diopter adjustment. It allows the user to make adjustments related to each users individual vision characteristics. Please adjust this feature before using the camera.

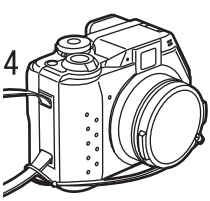
1 **Adjust the diopter, rotating the diopter adjustment dial.**

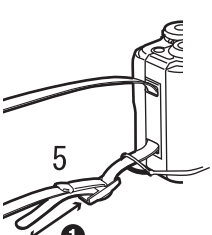
- If you take the picture of the subject at the distance between 2.3 feet (70 cm) - 3.3 feet (1 m) with the zoom in tele position, make the top of the subject match with the parallax compensation mark ①, in order not to cut it. When accurate framing is necessary, use the LCD monitor.

Attaching the Strap/Attaching the Lens Cap









When the camera is switched off or used in playback mode, protect the lens surface by attaching the supplied lens cap.

1 **Pass the end of the string through the lens cap eyelet.**

2 **Pass the knotted end of the string through the other end of the string and pull it firmly.**

3 **Pass the strap through the strap hole.**

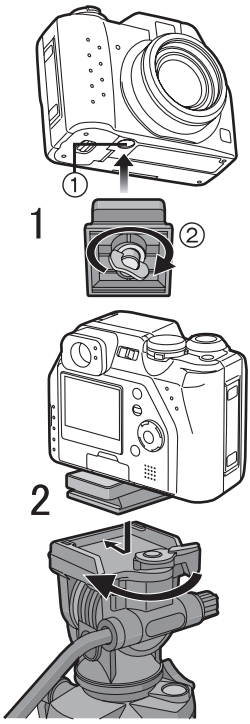
4 **Pass the end of the strap through the small loop at the knotted end of the string.**

5 **Fold the tip of the strap, run it through the strap length adjuster, and pull it.**

- Pull it out more than 0.07 feet (2 cm) ❶ from the strap length adjuster so that it cannot slip off.

- Remove the lens cap before turning the camera on. (P18)

Using the Tripod



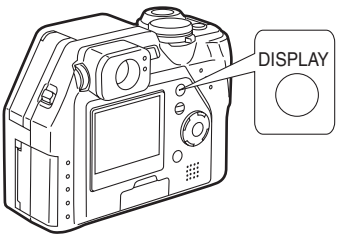
Using a tripod (customer supplied), can minimize or eliminate picture motion jitter associated with physical movement. This is especially true when in the tele position or when using slow shutter speeds.

1 **Align the camera holder ② with the tripod receptacle ① of the camera and attach.**

2 **Install the camera holder into the tripod.**

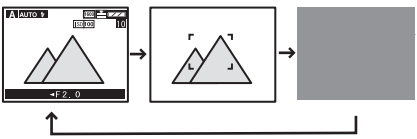
- To avoid damaging the camera, be careful not to over tighten the tripod.
- Read the tripod operating instructions carefully.

Using the LCD Monitor

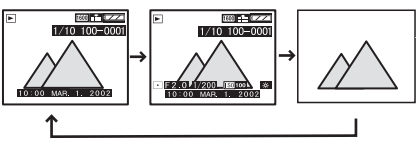


Every time you press the [DISPLAY] button, the display of the LCD monitor changes as shown below.

[In recording]

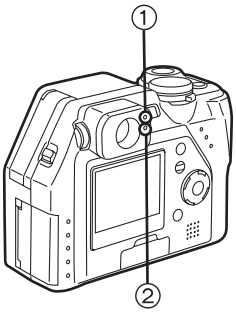


[In playback]



- These settings are retained in the Record mode, even if the power is turned off.
- When setting the digital zoom to [ON], you can not turn off the LCD monitor.
- When Auto Review function is set to [ON], LCD monitor turns on after taking picture for reviewing even if you use the camera in LCD off mode.
- You can also use Review function (P30) in LCD off mode. Press [REVIEW/SET] button after taking the picture, the last picture you have taken is displayed on the LCD monitor.

The Indicators



■ Status Indicator (Green) ①

[Blinking]
Warning indication

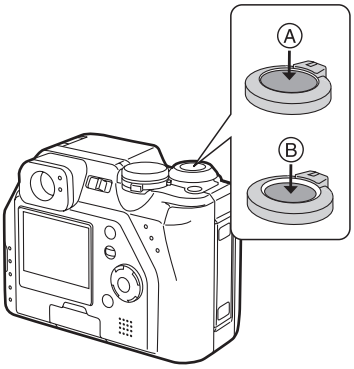
[Lighting]
When turning the power switch to [ON]

■ Flash/Access Indicator (Red) ②

[Blinking]
When charging the flash
When setting the flash mode to forced off and recording in dark places

[Lighting]
When accessing the card
Indicating the flash fires in next capture (It lights when the shutter is pressed halfway)

The Shutter Button (Pressing halfway/Pressing fully)



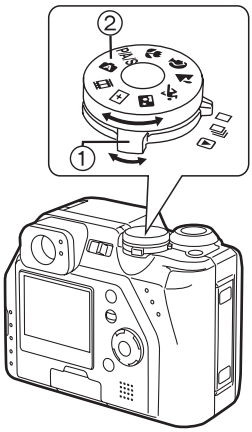
The shutter button is pressed in 2 steps: “pressing halfway” and “pressing fully”.

Pressing halfway (Press lightly) Ⓐ
- Focus and exposure are locked.

Pressing fully (Press all the way) Ⓑ
- The picture is captured. In motion image mode, the recording starts.

- You can adjust volume of the operational sound in the menu. (P79)
- If you press the shutter button fully in a single stroke, the captured picture may appear shaken or unfocused. (The camera may be moved during capturing)

The Operational Mode Dial and the REC Mode Dial



■ Operational mode dial ①
With this dial you can set REC (single mode or burst mode) and playback modes.

[In recording]

□ : Single mode
Pressing the shutter button once, a single picture is captured. Set to single mode [□] also when you record motion images.

□ : Burst mode (P57)
If you keep pressing the shutter button, you can take several pictures in sequence. (MAX 4 fps/8 frames)

[In playback]

▶ : Playback (P59)
Playback recorded images.

■ REC mode dial ②
You can choose among 9 REC modes, as shown below.

A: AUTO (P29)
The shutter speed and the aperture value are automatically adjusted. Also the settings can be adjusted is limited. This mode is for beginners.

P/A/S

P: Program AE: (P40)
The shutter speed and the aperture value are automatically adjusted. In addition, more settings can be adjusted.

A: Aperture-priority AE: (P41)
The shutter speed is adjusted automatically, according to the aperture value you set.

S:Shutter-priority AE: (P42)
The aperture value is adjusted automatically, according to the shutter speed you set.

The Operational Mode Dial and the REC Mode Dial (Continued)

: Macro mode: (P56)
When you take the pictures from a distance closer than 1.64 feet (50 cm), set the camera in macro mode. This allows you to get closer to the subject up to 0.2 feet (6 cm).

: Portrait mode: (P43)
Portrait mode lets you achieve the depth of focus effect easily when you take portrait photos. The subject looks sharp and outstanding with an unfocused background. You can place the subject much closer and allow proper distance between subject and background.

: Landscape mode: (P44)
You can capture sharp and crisp landscape photos easily. Please note that this mode is suitable for the landscapes farther than 32.8 feet (10 m) and in daylight situations.

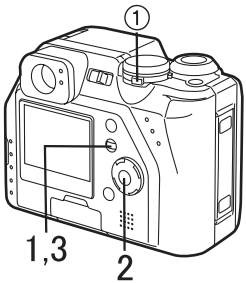
: Sports mode: (P45)
When you take photos of outdoor sports, this mode let you capture the still action photo easily. Please note that this mode is suitable to capture subjects from distances more than 16.4 feet (5 m) and in daylight situations.

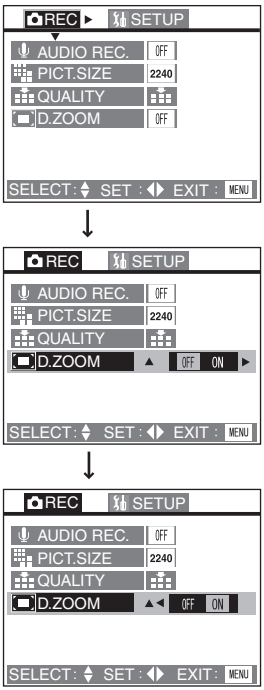
: Night portrait mode: (P46)
When you take pictures of, for example, your friends in front of beautiful night illumination scenery, this mode let you get the appropriate exposure for your subject as well as the background, using flash and slow shutter. Since slow shutter is set, use of tripod is recommended. Subject should be placed within the range of flash light.

: Spot mode: (P47)
When this mode is selected, both autofocus area and exposure will be set to spot mode. This is suitable when you take pictures in delicate lighting conditions and intend to set the exposure for a limited area.

:Motion images (P31)
Recording motion images.

Operating the Menu





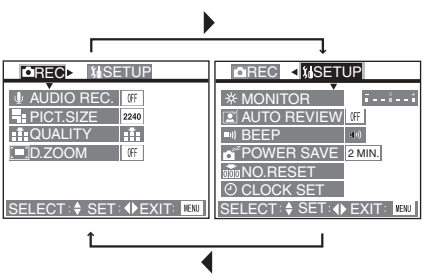
By operating the menu you can set the settings of REC or playback mode. You can also set the date and time, the operational sound and various other settings. Follow these instructions.

1 **Press the [MENU] button.**

- If you set the operational mode dial ① to the single mode [ ] or burst mode [ ], the REC menu is displayed; if you set it to the playback mode [ ], the playback menu is displayed.

2 **Press ▲/▼ to choose the item and press ◀/▶ to confirm this setting.**

- With step 2, by pressing ▶, you can access the setup menu. (If you press ◀, you can go back)

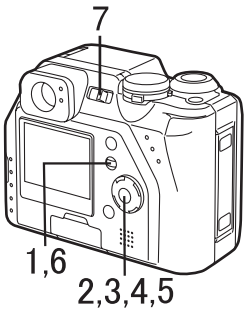


3 **Press the [MENU] button.**

- The menu will disappear.

Setting the Date/Time (Clock Set)

You can set the year from 2001 to 2099. The 24-hour system is used.



1 **Press the [MENU] button.**

2 **Press ► to make the setup menu appear.**

3 **Press ▲/▼ to select [CLOCK SET], and then press ►.**

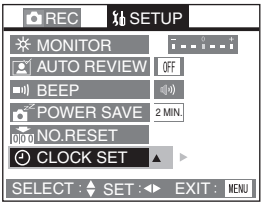
4 **Press ▲/▼/◄/► to set date and time, and then press ►.**

5 **Press ▲/▼ to select [M/D/Y], [D/M/Y] or [Y/M/D].**

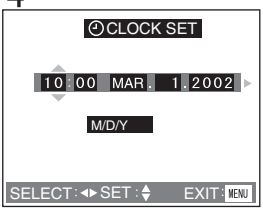
6 **Press the [MENU] button twice.**
- The menu will disappear.

7 **Check if the date/time setting is displayed correctly, after turning the camera [OFF] and [ON].**

3

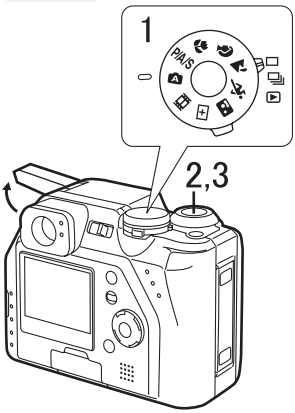


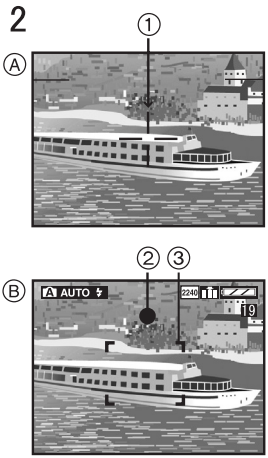
4



- If the message [PLEASE SET THE DATE/TIME] appears, charge the battery about 2 hours and set the date and time again.

Taking Pictures (AUTO Mode)





By only pressing the shutter button, the exposure (shutter speed and aperture value) will be automatically adjusted and the picture will be taken.

[Preparations]

- Insert the card. (P16)
- Set the power switch to [ON]. (P18)
- Set the operational mode dial to the single mode [▭]. (P25)

1 **Set the REC mode dial to AUTO mode [A].**

2 **[Ⓐ Optical finder]**
Center the subject in the AF target ① inside the optical finder and press the shutter button halfway.
[Ⓑ LCD monitor]
After centering the subject in the focus area ③ on the LCD monitor, press the shutter button halfway.

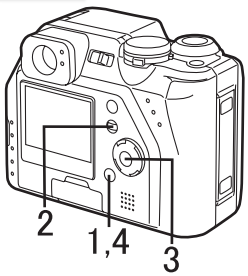
- When the focus is adjusted, the focus indication [●] ② appears.
- The shutter speed and the aperture value are automatically adjusted and displayed on the LCD monitor.
- When the subject is out of the AF target or the focus area, use the AF/AE lock. (P50)

3 **Press the shutter button fully to take the picture.**

- After taking a picture, when the auto review (P78) is set to [ON], the picture is displayed on the LCD monitor for about 2 seconds.

- When power saving time is set, if you do not operate the camera for a while, it is automatically turned off at the set time. To operate the camera again, press the shutter button or turn the power switch first to [OFF] and then to [ON]. (P80)
- There are times when the brightness of the LCD monitor differs from that of the recorded pictures. In particular, when taking pictures in dark places with a long time exposure, darkness appears on the LCD Monitor, but the recorded pictures are bright.

Checking the Last Picture (Review)



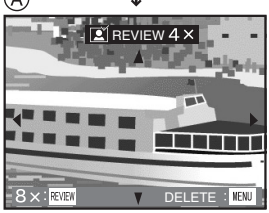
After taking a picture, when auto review (P78) is set to [ON], the captured picture is displayed on the LCD monitor for about 2 seconds, but you can also check the picture by following the methods shown below.

1 **After taking a picture, press the [REVIEW/SET] button.**

- The last captured picture is displayed for about 3 seconds. If you press the [REVIEW/SET] button again, the captured picture is zoomed 4 times (Ⓐ) and 8 times if you press once again.

1

Ⓐ



■ Erasing the captured picture during the review

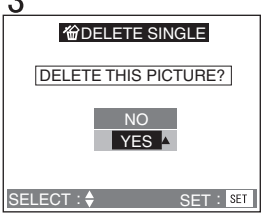
2 **Press the [MENU] button.**

3 **When the message [DELETE THIS PICTURE?] is displayed, press ▲/▼ to select [YES].**

4 **Press the [REVIEW/SET] button.**

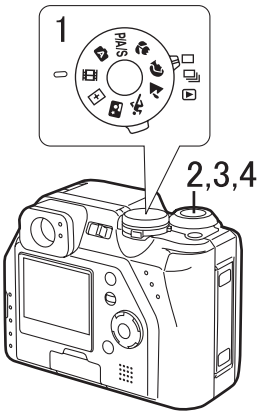
- The picture is erased.
- Once erased, pictures cannot be recovered.

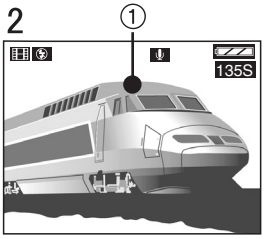
3



- When using the burst mode [ ], you can see only the first picture with the review.
- In motion image mode [ ], Review cannot be used.
- Once you turn off the camera or rotate the REC mode dial, you cannot use Review function.

Recording Motion Images





With this camera you can also record motion images. (If using the supplied 16MB SD Memory Card, it is possible to record for about 75 seconds)

[Preparations]

- Insert the card. (P16)
- Set the power switch to [ON]. (P18)
- Set the operational mode dial to single mode [▭]. (P25)

1 **Set the REC mode dial to motion image mode [🎞].**

2 **Center the subject in the focus area on the LCD monitor and press the shutter button halfway.**

- When the focus is adjusted, the focus indication [●] appears. (① Focus indication)

3 **By pressing the shutter button fully, the recording starts.**

- The audio REC starts simultaneously.

4 **By pressing the shutter button fully again, recording stops.**

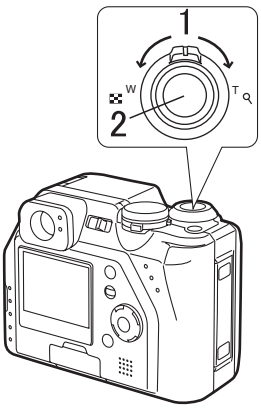
- If during the recording the memory of the card becomes full, the recording is stopped automatically.

■ In motion image record mode, the settings listed below are not available

- Picture size (P38)
- Built-in flash (P34)
- White balance (P52)
- ISO sensitivity (P54)

- The remaining time displayed on the LCD monitor is an approximation.
- You cannot record motion images without audio.
- If using the MultiMediaCard, after recording motion images, the screen may appear grey, but this is not a malfunction.
- After recording starts, the auto focus and zoom are locked (with the first frame).
- Recording could suddenly stop when recording motion images.

Using the Optical Zoom



With this function, you can make people and subjects closer, and landscapes can be captured in wide angle, with the 3 times optical zoom.

[Preparation]

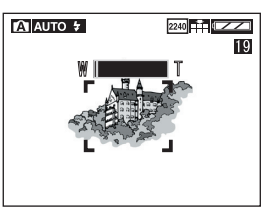
- Set the operational mode dial and REC mode dial. (P25)

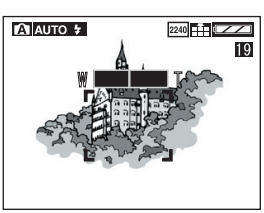
1 **Aim the camera at the subject and adjust the size with the zoom lever.**

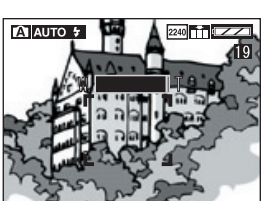
To make subjects closer (Tele):
Rotate towards T as far as it goes.
To make subjects wider (Wide angle):
Rotate towards W as far as it goes.

2 **Take pictures.**

- The recording method is the same as in “Taking Pictures (AUTO Mode)”. (P29)

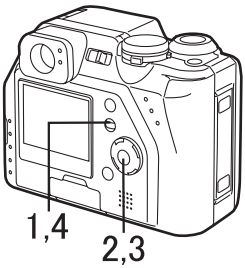




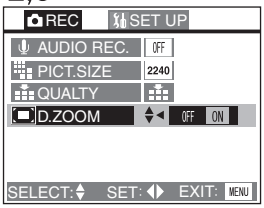


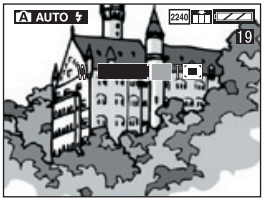
- The focus is adjusted at a distance of more than 0.98 feet (30 cm). For details on Macro mode, read P56.

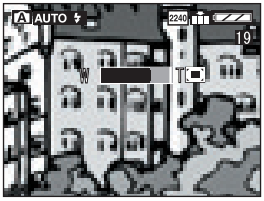
Using the Digital Zoom



2,3







It is possible to further magnify a subject already magnified 3 times with the optical zoom by 2 more times, with the digital zoom, thereby reaching a maximum of 6 times.

[Preparation]

- Set the operational mode dial and REC mode dial. (P25)

1 **Press the [MENU] button.**

2 **Press ▲/▼ to select [D. ZOOM].**

3 **Press ◄/► to set to [ON].**

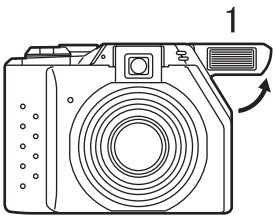
4 **Press the [MENU] button.**

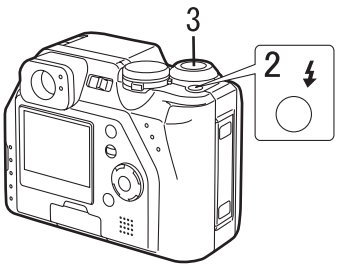
- The menu will disappear.

- The zoom adjustment and recording method are the same as in “Using the Optical Zoom”. (P32)

- In motion image mode [ ], you cannot use the digital zoom.
- When setting the digital zoom to [ON], the display of the LCD monitor cannot be set to off.
- When using the digital zoom the picture quality becomes deteriorated.

Taking Pictures with the Built-in Flash



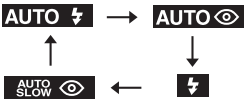


[Preparation]
- Set the operational mode dial and REC mode dial. (P25)

1 **Slide the flash open lever to open the Flash.**

2 **Press [ ].**

- Every time you press the [ ] button, the available settings will appear as shown below. (There are settings that cannot be set according to the REC mode. Those that cannot be set are not displayed when pressing the [ ] button. Refer to the table on the left.)



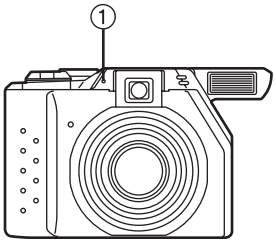
	A	P	A	S		
AUTO	○	○	○	○	○	—
AUTO	○	○	○	○	○	○
	○	○	○	○	○	○
AUTO SLOW	—	○	○	—	○	—

AUTO	○	○	—	○	—
AUTO	○	○	—	○	—
	○	○	—	○	—
AUTO SLOW	—	—	○	○	—

AUTO : AUTO
The flash fires automatically according to the recording situation.

AUTO : AUTO/Red-eye reduction
The flash fires automatically according to the recording situation and simultaneously it reduces the red-eye phenomenon (when a subject's eyes appear red in flash light). Use it when you take pictures of people or animals in dark places.

: Forced ON
The flash fires in every capturing. Use this setting when your subject is backlighted.



AUTO SLOW :
Slow sync./Red-eye reduction
When you take a picture with a dark background landscape, it makes the flash fire and the shutter speed slow, so that the dark background landscape will become bright. Simultaneously it reduces the red-eye phenomenon.

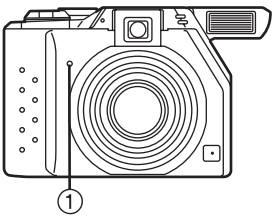
: Forced OFF
When you do not open the flash, this mode is set.
Even being in dark places, the flash does not fire.
Set it when you take pictures in places where using flash is not allowed.

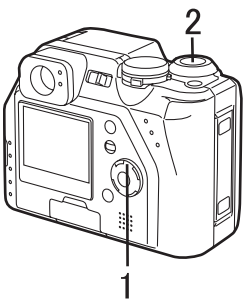
3 Take pictures.

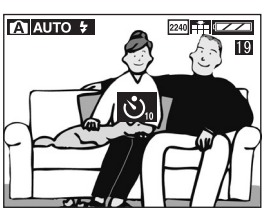
The recording method is the same as in “Taking Pictures (AUTO Mode)”. (P29)

- The available flash range is about 0.98 feet (30 cm) - 14.8 feet (4.5 m) at a maximum wide angle and about 0.98 feet (30 cm) - 11.5 feet (3.5 m) at a maximum telephoto setting. (In macro mode, at a maximum wide angle setting it is about 0.33 feet (10 cm) - 1.64 feet (50 cm), at a maximum telephoto setting it is about 0.66 feet (20 cm) - 1.64 feet (50 cm)
- Do not cover the flash sensor ① with your fingers or other items. Otherwise, brightness cannot be perceived.
- In motion image mode [ ], setting is fixed to the forced OFF [ ].
- When you set to burst mode [ ] or auto bracket, only 1 picture is taken for every flash firing.
- When the flash does not open, setting is fixed to the forced OFF [ ].

Taking Pictures with the Self-timer







When you set the self-timer, the picture is automatically taken after 10 seconds (or 2 seconds).

[Preparation]

- Set the operational mode dial and REC mode dial. (P25)

1 Press the [ ] button.

- Every time you press it, what is displayed changes as shown below.

(10 s) → (2 s) → OFF

: Self-timer set to 10 seconds

: Self-timer set to 2 seconds

When these indicators are not displayed, self-timer setting is cancelled.

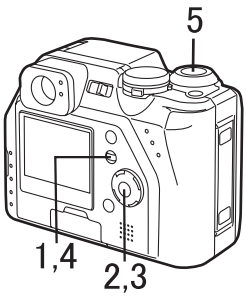
2 Press the shutter button fully.

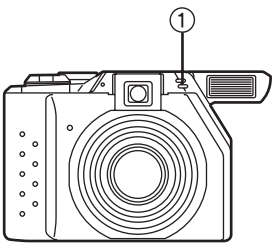
- The self-timer indicator ① blinks and the shutter is activated after 10 seconds (or 2 seconds).
- When setting the self-timer, the focus and exposure are not adjusted by pressing the shutter button halfway. When pressing the button fully, they are automatically adjusted just before recording.
- Before taking a picture, if you press the [MENU] button, the self-timer setting is cancelled.

- In AUTO mode [A], you can only set to 10 seconds [ ].
- In motion image mode [ ], it is not possible to use the self-timer.
- In burst mode [ ], the self-timer setting applies to the first picture only.

Taking Pictures with Audio

You can take a picture with audio for 5 seconds.





[Preparation]

- Set the operational mode dial and REC mode dial. (P25)

1 **Press the [MENU] button.**

2 **Press ▲/▼ to set to [AUDIO REC.].**

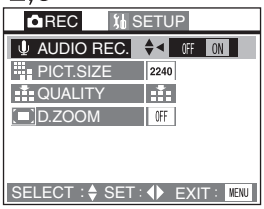
3 **Press ◄/► to set to [ON].**

4 **Press the [MENU] button.**
- The menu will disappear.
- This icon [ ] will appear on the LCD monitor.

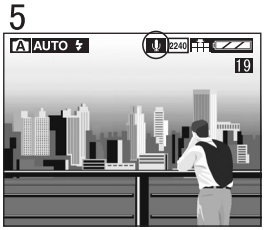
5 **Press the shutter button fully and take a picture.**
- It is not necessary to continue pressing the shutter button.
- Audio is recorded from the built-in microphone ① of the camera.
- 5 seconds later, the audio recording is stopped automatically.

- When setting quality of TIFF [TIFF], to burst mode or auto bracket, it is not possible to take a picture with audio. (P39, P49, P57)

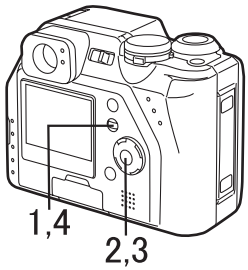
2,3



5



Changing the Picture Size



You can choose among 4 picture size settings.

[Preparation]

- Set the operational mode dial and REC mode dial. (P25)

1 **Press the [MENU] button.**

2 **Press ▲/▼ to select [PICT. SIZE].**

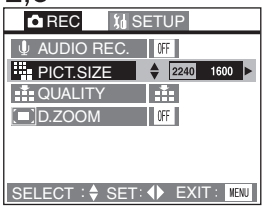
3 **Press ◄/► to set the picture size.**

- 2240 : 2240 × 1680 pixels
- 1600 : 1600 × 1200 pixels
- 1120 : 1120 × 840 pixels
- 640 : 640 × 480 pixels

4 **Press the [MENU] button.**

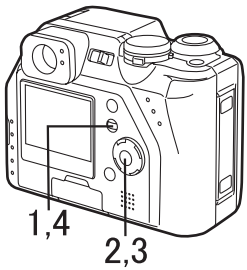
- The menu will disappear.

2,3



In motion image mode [ ], the picture size is fixed to 320 × 240 pixels.
The smaller you set the picture size, the more pictures you can store on the memory card. In addition, a small data volume allows you attach the picture to an e-mail or post it on a web site more easily.
If you set a larger picture size, the printed picture will be clearer, especially with larger sized prints.

Changing the Quality (Data Compression Ratio)



You can choose among 3 quality levels (Data Compression Ratio).

[Preparation]

- Set the operational mode dial and REC mode dial. (P25)

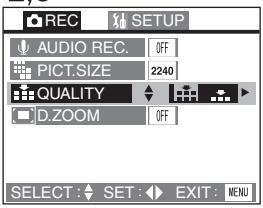
1 **Press the [MENU] button.**

2 **Press ▲/▼ to select [QUALITY].**

3 **Press ◄/► to select the quality (Data Compression Ratio).**

- TIFF : TIFF (No compression)
  Suitable when editing and processing pictures with editing/retouching software.
- : Fine (Low compression)
  It gives priority to picture quality to record high quality pictures.
- : Standard
  (Standard compression)
  It gives priority to the number of recordable pictures and records standard quality pictures.

2,3



Ⓐ

ⓐ	ⓑ		
			TIFF
2240 x 1680	7	15	1
1600 x 1200	15	29	2
1120 x 840	29	56	4
640 x 480	69	113	13
ⓒ	Approx.75 s		

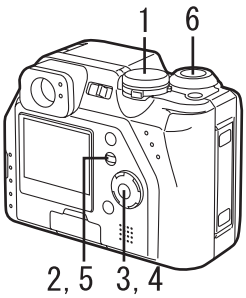
Ⓐ: Quality and number of recordable pictures
(ⓐ Picture size, ⓑ Quality, ⓒ In motion image mode) (With the supplied 16MB SD Memory Card)

4 **Press the [MENU] button.**

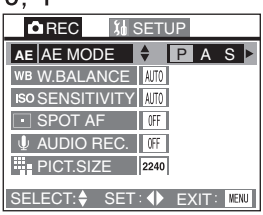
- The menu will disappear.

- In AUTO mode [A], you cannot select TIFF [TIFF].
- In motion image mode [ ], quality cannot be modified.
- It may happen that pictures appear like a mosaic depending on the scene characteristics.
- The number of recordable pictures corresponds to the capacity of the supplied 16MB SD Memory Card. (If you mix fine quality and standard quality, the number of recordable pictures changes)
- Remaining frame which is displayed on the LCD monitor may not correspond with recorded frames, however, this is not a malfunction.

Taking Pictures with Program AE Mode



3, 4



The shutter speed and aperture value are set automatically according to the brightness of the subject. The combination of the shutter speed and aperture value is the same as that of the AUTO mode (P29), but the settings listed below are also available. (It is not possible to set in AUTO mode)

- Slow sync./Red-eye reduction [AUTO SLOW] (P34)
- 2 seconds self-timer (P36)
- TIFF [TIFF] quality (compression ratio) (P39)
- Exposure compensation (P48)
- Auto bracket (P49)
- Picture adjustment (P51)
- White balance (P52)
- ISO sensitivity selection (P54)
- Spot mode (P55)

[Preparation]

- Set the operational mode dial. (P25)

1 **Set the REC mode dial to P/A/S.**

2 **Press the [MENU] button.**

3 **Press ▲/▼ to select [AE MODE].**

4 **Press ◄/► to set to [P].**

5 **Press the [MENU] button.**

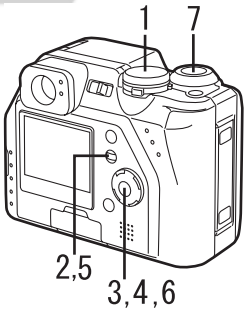
- The menu will disappear.

6 **Take a picture.**

- The recording method is the same as in “Taking Pictures (AUTO Mode)”. (P29)

- When taking pictures in dark places, as the exposure time becomes longer and it is difficult to stabilize the camera, the use of a tripod is recommended.
- If the aperture value is not properly set, the color of the F and the shutter speed values on the LCD monitor becomes red.

Taking Pictures with Aperture-priority AE



When aperture value is set, the shutter speed is set automatically according to the subject brightness. Changing the aperture value changes the depth of field of the picture. Manipulating this value can change the sharpness of the background of your picture.

[Preparation]

- Set the operational mode dial. (P25)

1 **Set the REC mode dial to P/A/S.**

2 **Press the [MENU] button.**

3 **Press ▲/▼ to select [AE MODE].**

4 **Press ◄/► to set to [A].**

5 **Press the [MENU] button.**

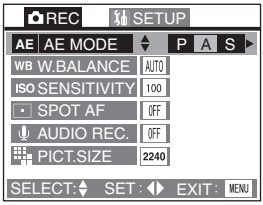
- The menu will disappear.

6 **Press ◄/► to set the aperture value.**

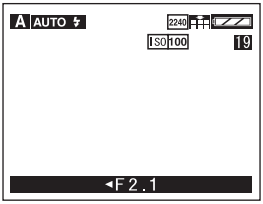
7 **Take a picture.**

- The recording method is the same as in "Taking Pictures (AUTO Mode)". (P29)

3, 4

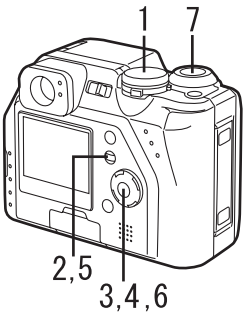


6



- The available setting range of the aperture value is from F2.0 to F8.0.
- The aperture value can change according to zoom position.
- It is not possible to select ISO sensitivity [AUTO].
- If the aperture value is not properly set, the color of the F and the shutter speed values on the LCD monitor becomes red.

Taking Pictures with Shutter-priority AE



When the shutter speed is set, the aperture value is set automatically according to the subject brightness.
e.g.: when recording a moving subject, set to high speed.

[Preparation]
- Set the operational mode dial. (P25)

1 **Set the REC mode dial to P/A/S.**

2 **Press the [MENU] button.**

3 **Press ▲/▼ to select [AE MODE].**

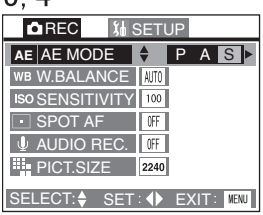
4 **Press ◄/► to set [S].**

5 **Press the [MENU] button.**
- The menu will disappear.

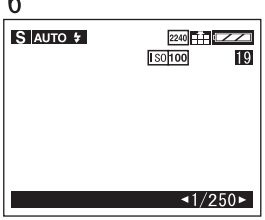
6 **Press ◄/► to set the shutter speed.**

7 **Take a picture.**
- The recording method is the same as in "Taking Pictures (AUTO Mode)". (P29)

3, 4

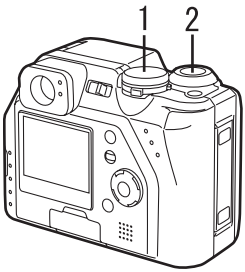


6



- In shutter-priority AE mode [S], it is not possible to choose the settings listed below.
  Slow sync./red-eye reduction [AUTO SLOW] (P34) of the built-in flash
  [AUTO] ISO sensitivity (P54)
- The available setting range of the shutter speed is adjustable from 8 seconds to 1/1000 th.
- When the shutter speed is slow, the use of a tripod is recommended.
- If the aperture value is not properly set, the color of the F and the shutter speed values on the LCD monitor becomes red.
- If the shutter speed is faster than 1/500, the aperture value is limited.

Taking Pictures with the Portrait Mode



Portrait mode allows you to achieve the depth of focus effect easily when you take portrait photos. The subject looks sharp and outstanding against an unfocused background. It will be best place the subject much closer and allow for proper distance between subject and background.
Please note that this mode is suitable for outdoor situations under sunlight.
When you view the subject under differing lighting situations, you may need to open the flash. Flash mode will be [Forced ON] in the default position and you can also select [Auto/Red-eye reduction]. ([AUTO] can not be selected in this mode.)

[Preparation]

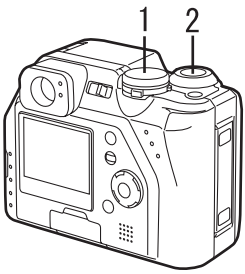
- Set the operational mode dial. (P25)

1 **Set the REC mode dial to Portrait mode [ ].**

2 **Take a picture.**

The recording method is the same as in “Taking Pictures (AUTO Mode)”. (P29)

Taking Pictures with the Landscape Mode



In Landscape mode the camera is adjusted to product the greatest depth of field. This mode works best outdoors under direct sunlight at diatances **exceeding 32.8 feet (10 m)**.

[Preparation]

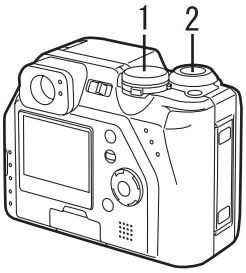
- Set the operational mode dial. (P25)

1 **Set the REC mode dial to Landscape mode [ ].**

2 **Take a picture.**

The recording method is the same as in “Taking Pictures (AUTO Mode)”. (P29)

Taking Pictures with the Sports Mode



When you take photos of outdoor sports, this mode allows you to capture a still action photo easily. Please note that this mode is suitable to take photos of the subject from distances of more than 16.4 feet (5 m) and in **daylight** situations.

[Preparation]

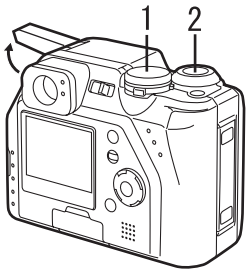
- Set the operational mode dial. (P25)

1 **Set the REC mode dial to Sports mode [ ].**

2 **Take a picture.**

The recording method is the same as in “Taking Pictures (AUTO Mode)”. (P29)

Taking Pictures with the Night Portrait Mode



The Night Portrait mode combines the electronic flash with a “slow shutter” mode. This unique feature allows you to photograph close subjects against the natural night background. Since the shutter speed is slow, we highly recommend using a tripod to steady the camera. The subject should be positioned within the recommended distance for the camera’s flash can illuminate.

[Preparation]

- Set the operational mode dial. (P25)

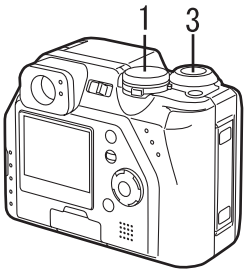
1 **Set the REC mode dial to Night portrait mode [ ].**

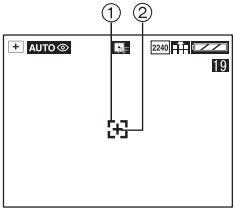
2 **Take a picture.**

The recording method is the same as in “Taking Pictures (AUTO Mode)”. (P29)

- If you do not open the flash using this mode, you can take the night illumination scenery itself with slower shutter speed. Use the tripod when using this mode.

Taking Pictures with the Spot Mode





When this mode is selected, both autofocus area and exposure will be set to spot mode. This is suitable when you take pictures in delicate light conditions and intend to spot on a limited area.

[Preparation]

- Set the operational mode dial. (P25)

1 **Set the REC mode dial to Spot mode [+].**

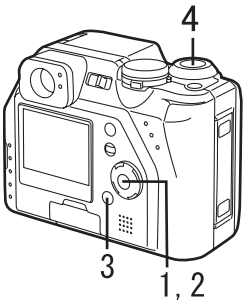
- The spot AF area ① and spot metering target ② appears.

2 **Center the subject in the spot AF area.**

3 **Take a picture.**

- The recording method is the same as in “Taking Pictures (AUTO Mode)”. (P29)

Compensating the Exposure



In some situations the illumination of the background and your subject may differ. Auto exposure systems may not always calculate the proper exposure correctly. This is a normal situation. This feature allows you to manually compensate the exposure.

[Preparation]

- Set the operational mode dial and REC mode dial. (P25)

1 **Press the [ ] button to select [EXPOSURE].**

2 **Press ◄/► to compensate the exposure.**

- You can compensate from -2 EV to +2 EV with 0.25 EV step.
  (EV is an abbreviation of Exposure Value, and it is the amount of light given to the CCD by the aperture value and the shutter speed. EV0: the exposure capacity with the aperture value F1.0 and the shutter speed 1 second
  When the aperture value or shutter speed rises, EV1, EV2, EV3... rise too.)
- The compensation state is not reflected on the LCD monitor.

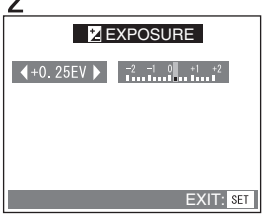
3 **Press the [REVIEW/SET] button.**

- The compensation window will close.

4 **Take a picture.**

- The recording method is the same as in "Taking Pictures (AUTO Mode)". (P29)

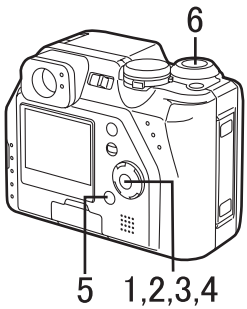
2



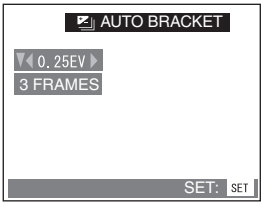
Shutter speed Aperture value

- When the shutter speed is faster than 1/500, the range of aperture value which is possible to compensate exposure will be limited. (Ⓐ)
- When recording in AUTO [A], portrait [ ], landscape [ ], sports [ ] or motion image [ ] mode, it is not possible to compensate exposure.

Taking Pictures with Auto (AE) Bracket



2



Pressing the shutter button once, the camera will automatically take 3 (or 5) pictures changing exposure according to the set exposure compensation value.

[Preparation]

- Set the operational mode dial and REC mode dial. (P25)

1 **Press the [ ] button to select [AUTO BRACKET].**

2 **Press ◄/► to set the exposure compensation range.**

- Select among 0.25EV, 0.5EV, 0.75EV, 1.0EV. Setting to [OFF], auto bracket is unavailable.

3 **Press ▼.**

- Press ▲/▼ to select step 2 or 4.

4 **Press ◄/► to set the number of pictures (3/5).**

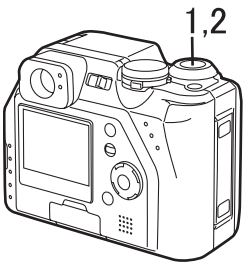
5 **Press the [REVIEW/SET] button.**

6 **Take a picture.**

- The recording method is the same as in "Taking Pictures (AUTO Mode)". (P29)

- When recording in AUTO [A], portrait [ ], landscape [ ] or sports [ ], you cannot record using auto bracket.
- Setting quality to TIFF [TIFF], you cannot record using auto bracket.
- Setting quality to fine [ ], the number of pictures is set to 3.
- When flash fires, you can take only 1 picture.

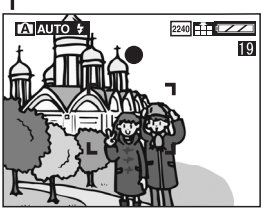
Using the AF/AE Lock



If the subject is out of the AF target or the focus area and you press the shutter button, the subject's focus is not adjusted. After locking focus and exposure (AF/AE lock), you can take a clear picture with adjusted focus.
AF: Auto focus
AE: Auto exposure

[Preparation]
- Set the operational mode dial and REC mode dial. (P25)

1



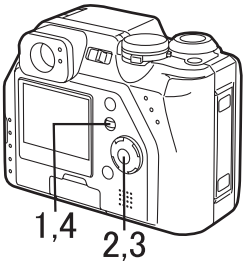
1 **Aim the camera at the subject on which you want to adjust the focus to enter the focus area on the LCD monitor and then press the shutter button halfway (AF/AE lock) to set it.**
- When the focus is adjusted, the focus indication [●] appears.

2

2 **Move the camera keeping the chosen composition and press the shutter button all the way.**

- Before pressing the shutter button, you can set the AF/AE lock any time you want.

Picture Adjustment (Contrast/Sharpness/Saturation)



[Preparation]

- Set the operational mode dial and REC mode dial. (P25)

1 **Press the [MENU] button.**

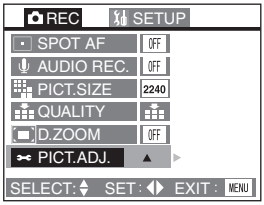
2 **Press ▲/▼ to select [PICT. ADJ.] and press ►.**

3 **Press ▲/▼/◄/► to set [CONTRAST], [SHARPNESS] and [SATURATION].**

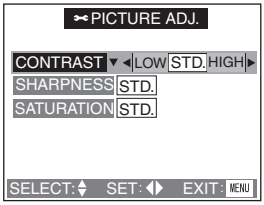
4 **Press the [MENU] button twice.**

- The menu will disappear.

2

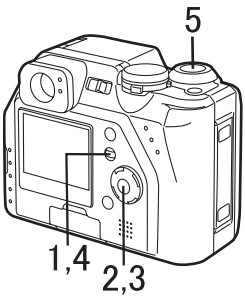


3

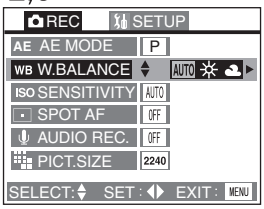


- When recording in AUTO [A], portrait [ ], landscape [ ], sports [ ], night portrait [ ] or motion image [ ] mode, it is not possible to adjust quality.

Setting the White Balance



2,3



Auto White Balance is designed to automatically adjust the camera to produce natural flesh tones. In most situations it works fine. In some situations where several different types of lighting are present, enhanced performance can be achieved by setting the white balance manually.

[Preparation]

- Set the operational mode dial and REC mode dial. (P25)

1 **Press the [MENU] button.**

2 **Press ▲/▼ to select [W.BALANCE].**

3 **Press ◄/► to select the mode.**

- AUTO: if the auto white balance is set
- (Daylight): for recording outdoors on a bright day
- (Cloudy): for recording under cloudy and shady sky
- (Halogen): for recording under halogen lighting
- (Fluorescent): for recording under fluorescent lighting
- (Flash): for taking a picture with flash light only
- (White set): for manual setting (Read the following page where the manual setting is explained in detail)

4 **Press the [MENU] button.**

- The menu will disappear.

5 **Take a picture.**

- The recording method is the same as in “Taking Pictures (AUTO Mode)”. (P29)

- In AUTO [A], portrait [ ], landscape [ ], sports [ ] or night portrait [ ] mode, the white balance is set to [AUTO].

Here the white set mode of white balance is explained.

[Preparation]

- Set the operational mode dial and REC mode dial. (P25)

1 **Press the [MENU] button.**

2 **Press ▲/▼ to select [W.BALANCE].**

3 **Press ◄/► to set to white set [ ].**

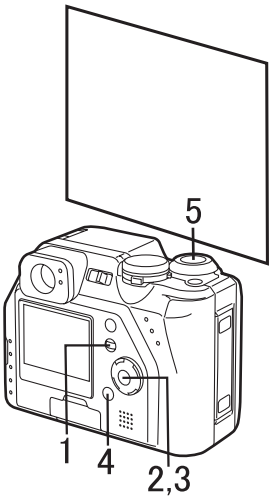
Only when setting the white balance again

4 **Press the [REVIEW/SET] button.**

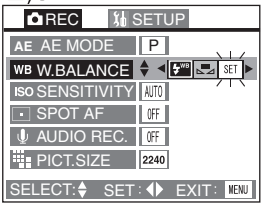
- The menu will disappear.

5 **Aim the camera at a white paper or similar objects so that it completely fills the frame to white on the screen and press the shutter button all the way.**

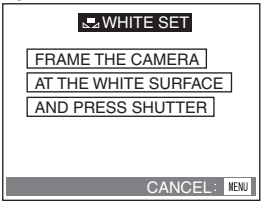
- White balance is set.



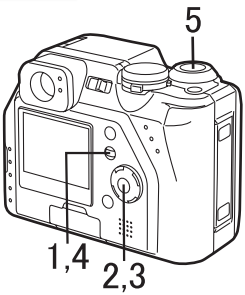
2,3



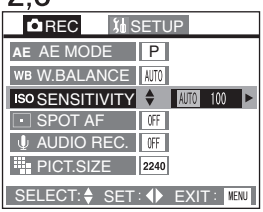
5



Setting ISO Sensitivity



2,3



ISO sensitivity is a value that corresponds to the sensitivity to light. The higher it is, the better the camera performs in dark places.

[Preparation]

- Set the operational mode dial and REC mode dial. (P25)

1 **Press the [MENU] button.**

2 **Press ▲/▼ to select [SENSITIVITY].**

3 **Press ◄/► to select the sensitivity.**

- AUTO: If “AUTO” is selected and Flash mode is “Forced OFF”, if available light needs shutter speed slower than 1/8, the ISO sensitivity is automatically adjusted up to ISO 200 and shutter speed stays 1/8. If your picture is still too dark, please use the flash.
- ISO 100
- ISO 200
- ISO 400

4 **Press the [MENU] button.**

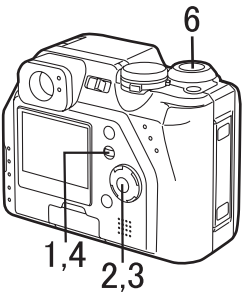
- The menu will disappear.

5 **Take a picture.**

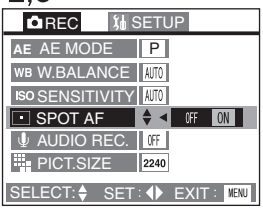
- The recording method is the same as in “Taking Pictures (AUTO Mode)”. (P29)

- In aperture-priority AE [A] or shutter-priority AE [S], it is not possible to set to [AUTO] ISO sensitivity.
- In AUTO [A], portrait [ ], landscape [ ], sports [ ], night portrait [ ] or motion image [ ] mode, it is set to [AUTO].

Using the Spot AF



2,3



You can record a subject focusing on a single part with a smaller focus area than usual. This setting is particularly suitable to focus on the eye when you take portrait photos.

[Preparation]

- Set the operational mode dial and REC mode dial. (P25)

1 **Press the [MENU] button.**

2 **Press ▲/▼ to select [SPOT AF].**

3 **Press ◄/► to set to [ON].**

4 **Press the [MENU] button.**

- The menu will disappear.

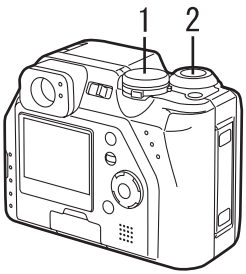
5 **Center the subject in the spot AF area.**

6 **Take a picture.**

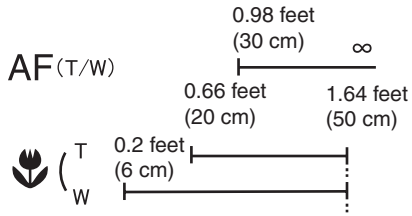
- The recording method is the same as in “Taking Pictures (AUTO Mode)”. (P29)

- In AUTO [A] or motion image [ ] mode, it is not possible to record with the spot AF.

Taking Pictures with Macro Mode

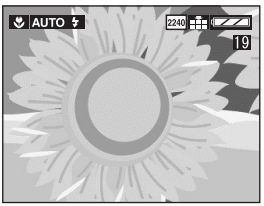


If the camera lens is at a distance of 0.2 feet (6 cm) to 1.64 feet (50 cm) from the subject, set macro mode [ ].



[Preparation]

- Set the operational mode dial. (P25)



1 **Set the REC mode dial to macro mode [ ].**

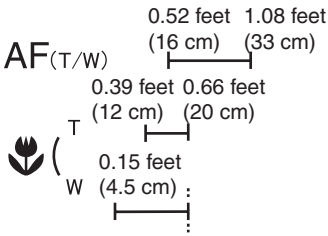
- [ ] will be displayed.

2 **Take a picture.**

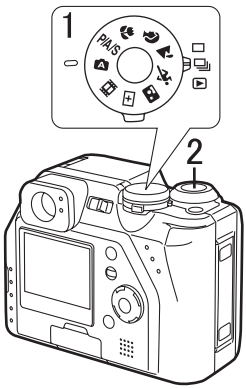
- The recording method is the same as in "Taking Pictures (AUTO Mode)". (P29)

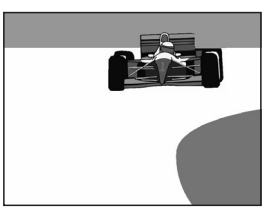
- When selecting the macro mode, optical finder functionality is limited. Use the LCD monitor.
- If you use the close-up lens (DMW-LC52, optional), you can record from a shorter distance.

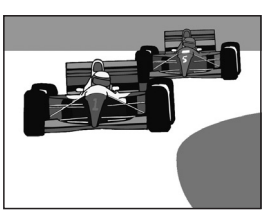
When using close-up lens (optional)

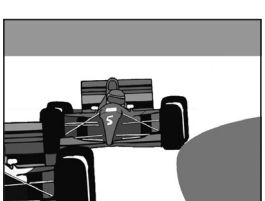


Taking Pictures with Burst Mode









By continuously pressing the shutter button, it is possible to record in burst mode. (4 frames/second maximum of 8 frames)

[Preparation]

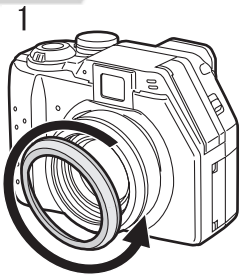
- Set the REC mode dial. (P25)

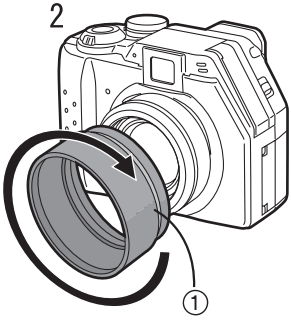
1 **Set the operational mode dial to burst mode [ ].**

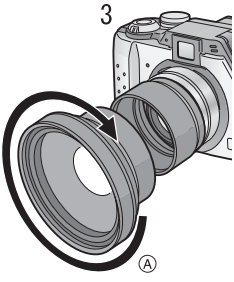
2 **Press the shutter button halfway to lock the focus, then press it fully to take pictures in sequence.**

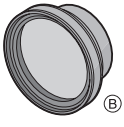
- It is possible to record 4 frames in 1 second in burst mode, at a shutter speed higher than 1/25, but the flash does not fire simultaneously.
- If the flash fires, it is possible to record only 1 frame.
- When quality is set to TIFF [TIFF], it is not possible to use the burst mode.
- When quality is set to fine [ ], it is possible to record a maximum of 4 frames in burst mode .
- In motion image mode [ ], the burst mode cannot be used.
- Only the first picture recorded is displayed on the LCD monitor.

Using the Conversion Lens









Using the tele conversion lens (DMW-LT52, optional), it is possible to zoom in much more; using the wide conversion lens (DMW-LW52, optional), it is possible to widen much more. (When attaching the conversion lens, the Close-up lens (DMW-LC52, optional) or MC protector (DMW-LMC52; optional) to the camera, the conversion lens adaptor (DMW-LA1) is necessary)

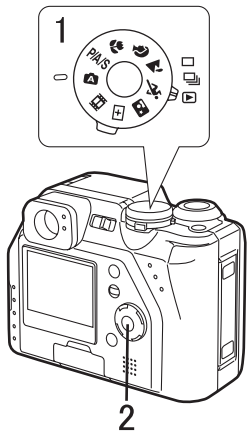
1 **Remove the lens ring.**

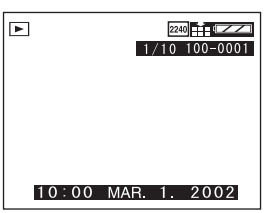
2 **Attach the conversion lens adaptor ①.**

3 **Install the tele conversion lens Ⓑ or the wide conversion lens Ⓐ.**

- When attaching the tele conversion lens and rotating the zoom lever towards W, a vignetting effect occurs. Only rotate towards T.
- When using the conversion lens, set the built-in flash to forced OFF.
- When attaching the conversion lens, use the LCD monitor.
- To prevent the lens from being stained with water or oil, attach both the optional conversion lens adaptor and the optional MC protector to protect the lens.
- For further information, read the conversion lens operating instructions.

Playing Back Still Pictures





1 **Set the operational mode dial to playback [▶].**

- The last recorded picture is played back.

2 **Press ◀ to play back the previous picture.**
Press ▶ to play back the following picture.

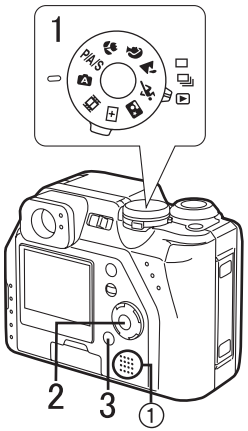
- Every time you press, the previous (following) picture is played back.
- The picture following the last one is the first picture.

[Fast forwarding/Fast rewinding]
During playback, continue pressing ◀/▶.
▶: Fast forward
◀: Fast rewind

- The file number increases/decreases. When releasing ◀/▶, the picture corresponding to the current file number is displayed.

- This camera is based on the DCF standards (Design rule for Camera File system) which were established by the Japan Electronic Industry Technology Association (JEITA).
- The file format that can be played back with this camera is JPEG. (There are also pictures that cannot be played back in JPEG format)
- When playing back still pictures that have been recorded with other equipment, the quality of pictures may be deteriorated and pictures may not be able to be played back.
- When playing back a file out of standard, the folder/file number is indicated by [-] and the screen becomes black.

Playing Back Still Pictures with Audio



1 **Set the operational mode dial to playback [▶].**

2 **Press ◀/▶ to select the file with audio icon [🎵] ②.**

3 **By pressing the [REVIEW/SET] button, audio is played back.**
•You can hear audio from the speaker ①.

■ Following the steps listed below, it is possible to adjust the sound volume. Ⓐ

1 **Set the operational mode dial to playback [▶].**

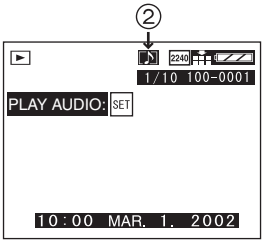
2 **Press the [MENU] button.**

3 **Press ▶ to select the setup menu.**

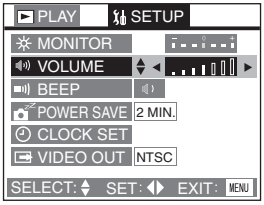
4 **Press ▲/▼ to select [VOLUME].**

5 **Press ◀/▶ to adjust the sound volume.**

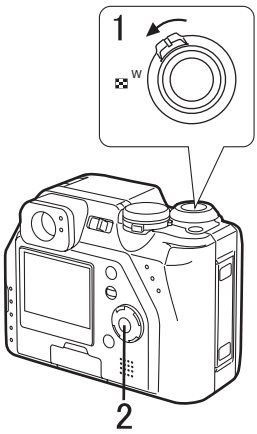
6 **Press the [MENU] button.**
•The menu will disappear.

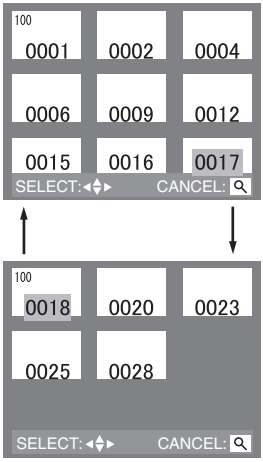


Ⓐ



9 Images Multi Playback





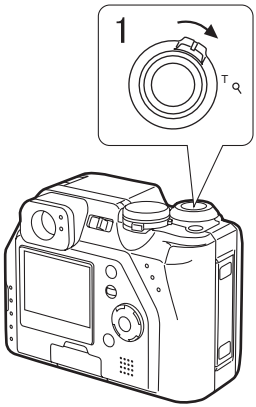
It is possible to display 9 images at once.

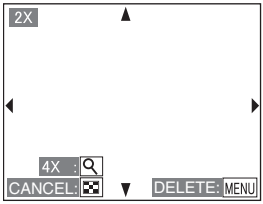
[Preparation]
Set the operational mode dial to playback [▶].

1 **During playback, rotate the zoom lever towards [▪▪▪].**
- Multi playback (9 frames) starts.

2 **Press ▲/▼/◀/▶ to select images.**
- To return to the normal indication, rotate the zoom lever towards [🔍]. The image with the file number colored in yellow is displayed.

Using the Playback Zoom





During playback it is possible to enlarge pictures.

[Preparation]

- Set the operational mode dial to playback [▶].

1 **During playback, rotate the zoom lever towards [🔍].**

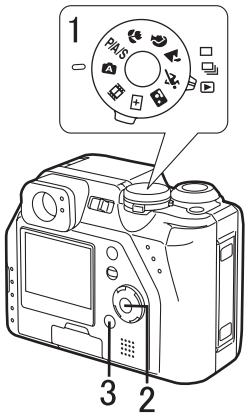
- The more the zoom lever rotates towards [🔍], the more the zoom magnification ratio increases.
- The more the zoom lever rotates towards [▪], the more the zoom magnification ratio decreases.
- Use ▲/▼/◀/▶ to change the area to be enlarged.

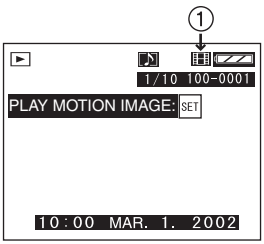
■ To delete a picture during the playback zoom

Press the [MENU] button.
When this message is displayed “DELETE THIS PICTURE?”, press ▲/▼ to select [YES], and press the [REVIEW/SET] button.

- In motion image playback, it is not possible to magnify.
- The more the zoom magnification increases, the more the picture quality deteriorates.
- The playback zoom may not operate if pictures have been recorded with other equipment.

Playing Back Motion Images





1 **Set the operational mode dial to playback [▶].**

2 **Press ◀/▶ to select the file with the motion image icon [🎞] ①.**

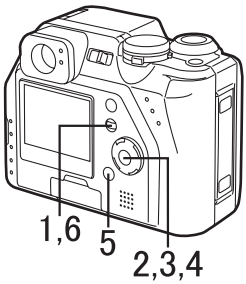
3 **By pressing the [REVIEW/SET] button, the motion image will be played back.**
- By pressing ▼, motion image playback will stop.

[Fast forwarding/Fast rewinding]
During motion image playback, continue pressing ◀/▶.
▶: Fast forward
◀: Fast rewind
- When releasing the button, it turns to normal playback.

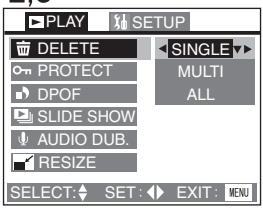
[To pause]
Press ▲ during motion image playback.
Press ▲ again to resume playback.

- When playing back motion images that have been recorded with other equipment, the quality of images may be deteriorated and images may not be able to be played back.
- The file format that can be played back with this camera is QuickTime Motion JPEG.
- It could happen that the Motion JPEG file recorded by PC or other equipments cannot be played back with this camera.
- When using a high capacity memory card, it is possible that fast rewinding may be slower.

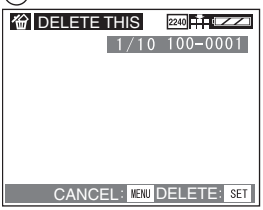
Deleting Images



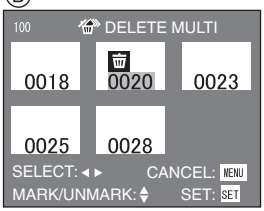
2,3



Ⓐ



Ⓑ



Images recorded on the card can be deleted. Once deleted, images cannot be recovered.

[Preparations]

- Set the operational mode dial to playback [▶].
- When an image is protected, it cannot be deleted. Cancel the protect setting. (P69)

[Delete single image] Ⓐ

1 **Press the [MENU] button.**

2 **Press ▲/▼ to select [DELETE] and press ▶.**

3 **Select [SINGLE] and press ▶.**

4 **Press ◀/▶ to select the image to be deleted.**

5 **Press the [REVIEW/SET] button.**
- The selected image is deleted.

6 **Press the [MENU] button twice.**
- The menu will disappear.

[Delete multi images] Ⓑ

It is possible to delete up to 50 images all at once.

1 **Press the [MENU] button.**

2 **Press ▲/▼ to select [DELETE] and then press ▶.**

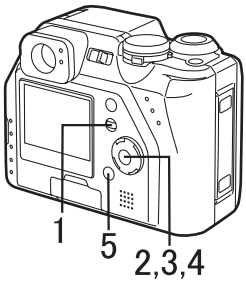
3 **Press ▲/▼ to select [MULTI] and then press ▶.**

4 **Press ◀/▶ to select the images to be deleted and then press ▲ to confirm this setting.**
- The selected images are displayed with [🗑]. Pressing ▼, the setting is cancelled.

5 **Press the [REVIEW/SET] button.**
- The selected multi images are deleted all at once.

6 **Press the [MENU] button twice.**
- The menu will disappear.

[Delete all images]
Once deleted, images cannot be recovered.



1 **Press the [MENU] button.**

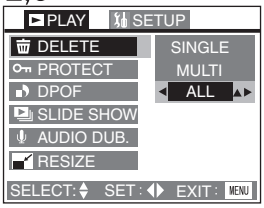
2 **Press ▲/▼ to select [DELETE] and then press ►.**

3 **Press ▲/▼ to select [ALL] and then press ►.**

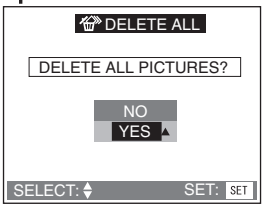
4 **When this message is displayed "DELETE ALL PICTURES?", press ▲/▼ to select [YES].**

5 **Press the [REVIEW/SET] button.**
- All images are deleted.

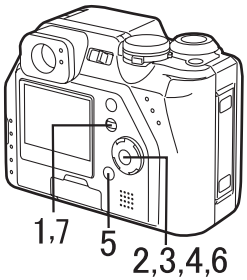
2,3



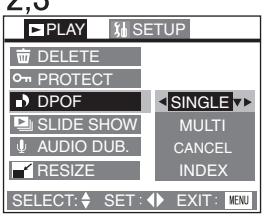
4



Writing the Print Information in the Card (DPOF Setting)



2,3



4

6

It is possible to write print information (DPOF data) on the card with the images that you want to print and the number of sheets.

DPOF is an abbreviation of Digital Print Order Format. With the DPOF corresponding system, you can add print information to the images on the memory card.

[Preparation]

- Set the operational mode dial to playback [▶].

[Single copy setting]

1 **Press the [MENU] button.**

2 **Press ▲/▼ to select [DPOF] and then press ▶.**

3 **Select [SINGLE] and then press ▶.**

4 **Press ◀/▶ to select 1 image.**

5 **Press the [REVIEW/SET] button.**
- If the DPOF has already been set and only the number of sheets is changed, skip step 5.

6 **Press ▲/▼ to select the number of sheets.**
- The number of sheets can be set from 1 to 99.

7 **Press the [MENU] button twice.**
- The menu will disappear.

[To cancel]

Perform steps 1-5, 7 of the [Single copy setting].

[Multi copy setting/to cancel]
It is possible to set up to 50 images all at once.

1 **Press the [MENU] button.**

2 **Press ▲/▼ to select [DPOF] and then press ►.**

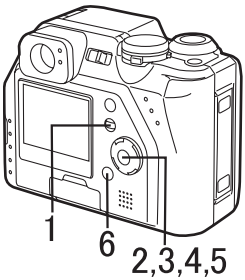
3 **Press ▲/▼ to select [MULTI] and then press ►.**

4 **Press ◄/► to select the image.**

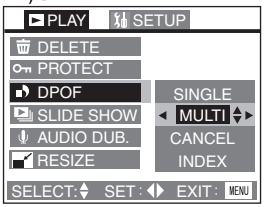
5 **Press ▲/▼ to select the number of sheets to be printed.**
- The number of sheets can be set from 1 to 99.

6 **Repeat steps 4 and 5, and at the end press the [REVIEW/SET] button.**
- The DPOF setting of multi images is set at once.

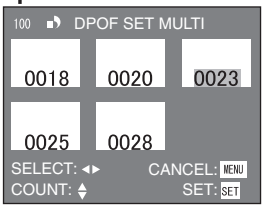
- If the file is not based on the DCF standard, the DPOF setting cannot be set.
- Images that are set by DPOF with the supplied software [SD Viewer for DSC] recorded on the CD-ROM cannot be played back in DPOF slide show with this camera. Set DPOF on this camera.
- When using the DPOF feature, this camera will overwrite any previous DPOF settings made by other products.



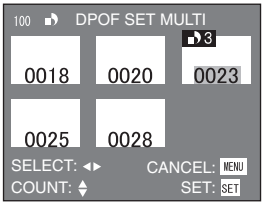
2,3



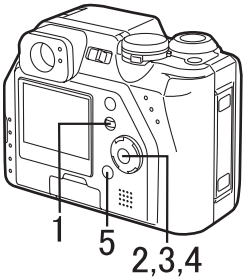
4



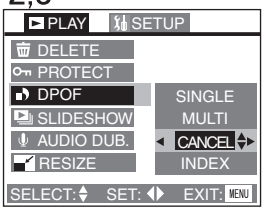
5



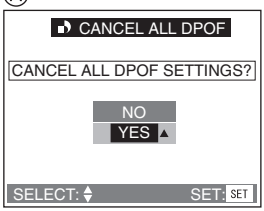
Writing the Print Information in the Card (DPOF Setting) (Continued)



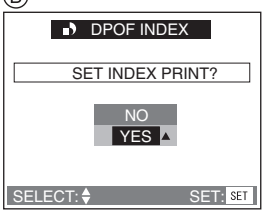
2,3



Ⓐ



Ⓑ



[To cancel all settings] Ⓐ

1 **Press the [MENU] button.**

2 **Press ▲/▼ to select [DPOF] and then press ►.**

3 **Press ▲/▼ to select [CANCEL] and then press ►.**

4 **When this message is displayed "CANCEL ALL DPOF SETTINGS?", press ▲/▼ to select [YES].**

5 **Press the [REVIEW/SET] button.**
- All DPOF settings are cancelled.

[Index setting/to cancel] Ⓑ

1 **Press the [MENU] button.**

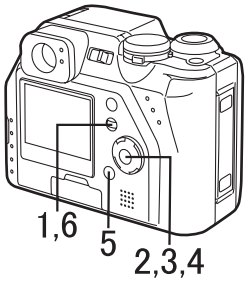
2 **Press ▲/▼ to select [DPOF] and then press ►.**

3 **Press ▲/▼ to select [INDEX] and then press ►.**

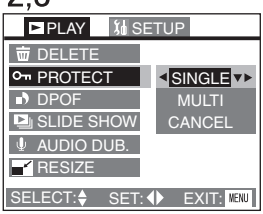
4 **When this message is displayed "SET INDEX PRINT?", press ▲/▼ to select [YES].**
- When the index is already set, press ▲/▼ to select [SET] or [CANCEL].

5 **Press the [REVIEW/SET] button.**
- All images are set/cancelled.

Protecting Images on the Card



2,3



It is possible to protect the important images recorded on the card from accidental erasure.

[Preparation]

- Set the operational mode dial to playback [▶].

[Single setting/to cancel]

1 **Press the [MENU] button.**

2 **Press ▲/▼ to select [PROTECT] and then press ▶.**

3 **Select [SINGLE] and then press ▶.**

4 **Press ◀/▶ to select 1 image.**

5 **Press the [REVIEW/SET] button.**

6 **Press the [MENU] button twice.**

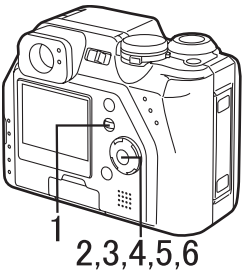
- The menu will disappear.

[Multi setting/to cancel, To cancel all settings]

1 **The method is the same as in "Writing the Print Information in the Card (DPOF Setting)". (P66~P68)**

- Formatting the card will erase all the data on the card, even if you protect the images in this procedure.
- When trying to delete a protected file, these messages are displayed "THIS PICTURE IS PROTECTED" or "SOME PICTURES CAN'T BE DELETED". If you want to delete this file, cancel the protect setting first.
- The protect setting is effective only in this camera.

Playing Back with Slide Show (Automatic Playback)



All pictures selected in the card can be played back one-by-one automatically.

[Preparation]

- Set the operational mode dial to playback [▶].

1 **Press the [MENU] button.**

2 **Press ▲/▼ to select [SLIDE SHOW] and then press ►.**

3 **Press ▲/▼ to select [ALL]/[DPOF] and then press ►.**

- [ALL]: for playing back all pictures
  [DPOF]: for playing back the DPOF set pictures

4 **Press ▲/▼/◄/► for setting below.**

- [DURATION]: it can be set among 1, 2, 3 and 5 seconds.
- [AUDIO]: it can be set to [ON] or [OFF]. By setting it to [ON], it is possible to play back the still pictures with audio in slide show.
- [DPOF SET] (Only when setting to [DPOF]): You can select the pictures you want to set to the Slide Show.
- [CANCEL ALL] (Only when setting to [DPOF]): You can delete the pictures that have been set to the Slide Show.

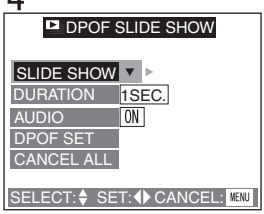
5 **Press ▲/▼ to select [SLIDE SHOW].**

6 **Press ►.**

- The slide show starts.
- By pressing the [MENU] button, it stops.

2,3

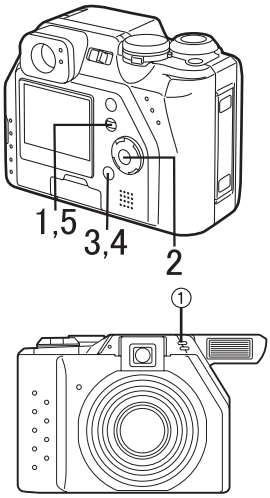
4



6

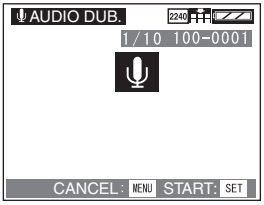
- In motion image playback, slide show is not available.
- When editing with the supplied software [SD Viewer for DSC] recorded on the CD-ROM, you can play back in SD slide show with this camera. Read P90.
- Images that are set DPOF with the supplied software [SD Viewer for DSC] recorded on the CD-ROM cannot be played back in DPOF slide show with this camera. Set DPOF on this camera.
- When using the DPOF feature, this camera will overwrite any previous DPOF settings made by other products.

Adding Audio to Recorded Pictures (Audio Dubbing)



2

3



It is possible to add a 10-second narration to a recorded picture.

[Preparations]

- Set the operational mode dial to playback [▶].
- Select the picture to which you want to add audio.

1 **Press the [MENU] button.**

2 **Press ▲/▼ to select [AUDIO DUB.] and then press ►.**

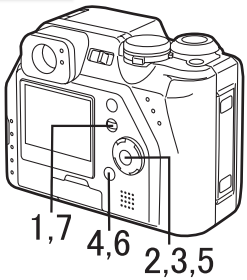
3 **By pressing the [REVIEW/SET] button, audio recording starts. (① Microphone)**
- When audio has already been recorded, after the audio dubbing the original audio is overwritten.
- When audio has already been recorded, this message is displayed "OVERWRITE AUDIO DATA?". Then press ▲/▼ to select [YES] and after pressing the [REVIEW/SET] button, the audio recording starts.

4 **By pressing the [REVIEW/SET] button, the audio recording stops.**
- Even if you do not press the [REVIEW/SET] button, after about 10 seconds the audio recording stops automatically.

5 **Press the [MENU] button twice.**
- The menu will disappear.

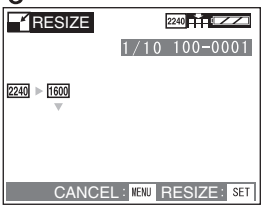
- The audio dubbing cannot be used with pictures with the quality set to TIFF [TIFF].
- The audio dubbing cannot be used with motion images.

Resizing the Recorded Pictures



2

3



It is possible to reduce the recorded picture size. This function is useful if you want to reduce the volume of the picture for attaching to an e-mail or uploading on web-site.

[Preparations]

- Set the operational mode dial to playback [▶].
- Play back the picture for which you want to change the size. (Note: for pictures in a size lower than [640 × 480] or with an aspect ratio that is not 4:3, it is not possible to resize)

1 **Press the [MENU] button.**

2 **Press ▲/▼ to select [RESIZE] and then press ▶.**

3 **Press ▲/▼ to select the size.**

- 1600 : 1600 × 1200
- 1120 : 1120 × 840
- 640 : 640 × 480

4 **Press the [REVIEW/SET] button to set the size.**

5 **When this message is displayed "DELETE ORIGINAL PICTURE?", press ▲/▼ to select [YES] or [NO].**

6 **Press the [REVIEW/SET] button.**

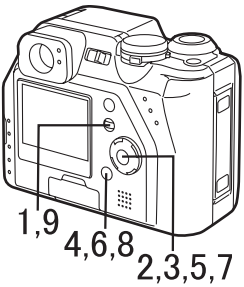
7 **Press the [MENU] button.**

- The menu will disappear.

- It may not be possible to resize the pictures recorded with other equipments.
- Motion images or TIFF pictures cannot be resized or pictures cannot be enlarged.

Trimming the Recorded Pictures

It is possible to cut off the unnecessary parts of the picture (trimming), and enlarge the remainder parts of the picture.

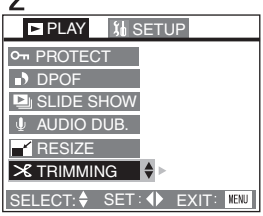


[Preparations]

- Set the operational mode dial to playback [▶].
- Select the picture you want to trim.

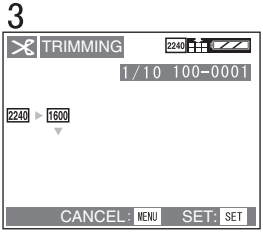
1 **Press the [MENU] button.**

2 **Press ▲/▼ to select [TRIMMING] and then press ►.**



3 **Press ▲/▼ to select the size.**

- 1600 : 1600 × 1200
- 1120 : 1120 × 840
- 640 : 640 × 480



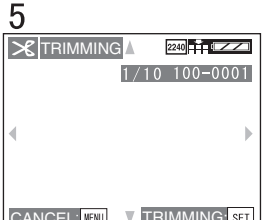
4 **Press the [REVIEW/SET] button.**

5 **Press ▲/▼/◄/► to shift pictures.**

6 **Press the [REVIEW/SET] button to set.**

7 **When this message is displayed "DELETE ORIGINAL PICTURE?", press ▲/▼ to select [YES] or [NO].**

8 **Press the [REVIEW/SET] button.**

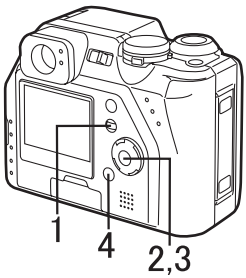


9 **Press the [MENU] button.**

- The menu will disappear.

- You cannot operate trimming on pictures recorded with other equipment.
- Motion images or TIFF pictures cannot be trimmed or enlarged.
- Trimming is not possible for pictures with audio or pictures with a size of [640 × 480] pixels.

Formatting the Card



Usually, it is not necessary to format the card (initializing). Format the card when this message is displayed “MEMORY CARD ERROR”.

[Preparation]

- Set the operational mode dial to playback [▶].

1 **Press the [MENU] button.**

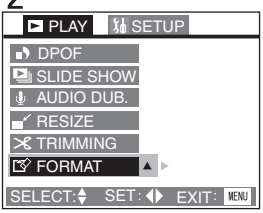
2 **Press ▲/▼ to select [FORMAT] and then press ►.**

3 **When this message is displayed “DELETE ALL DATA ON THE MEMORY CARD?”, press ▲/▼ to select [YES].**

4 **Press the [REVIEW/SET] button.**

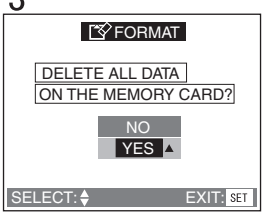
- The card is formatted.
- After formatting, recorded images and any other data cannot be recovered.

2



- During formatting, do not turn the power off.
- When the card is formatted by PC or other equipment, format the card on the camera again.

3

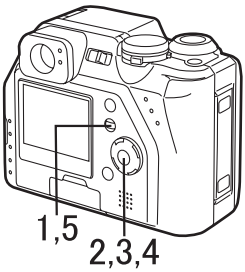


- If the card cannot be formatted, consult your dealer.

For USA assistance, please call: 1-800-272-7033 or send e-mail to : consumerproducts@panasonic.com

For Canadian assistance, please call: 1-800-561-5505 or visit us at www.panasonic.ca

Adjusting the LCD Monitor Brightness



1 **Press the [MENU] button.**

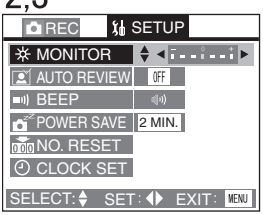
2 **Press ► to open the setup menu.**

3 **Press ▲/▼ to select [MONITOR].**

4 **Press ◄/► to adjust the brightness.**

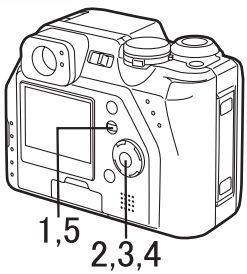
5 **Press the [MENU] button.**
- The menu will disappear.

2,3



- When turning the power off, the LCD monitor brightness is returned.

Using the Auto Review



Recording with the auto review set to [ON], the recorded picture is automatically displayed on the LCD monitor for about 2 seconds.

[Preparation]
Set the operational mode dial to REC mode (single mode [□] or burst mode [□]).

1 **Press the [MENU] button.**

2 **Press ► to open the setup menu.**

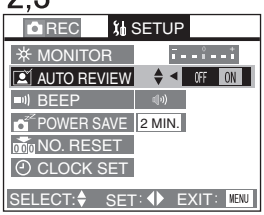
3 **Press ▲/▼ to select [AUTO REVIEW].**

4 **Press ◄/► to select [ON].**

5 **Press the [MENU] button.**

- The menu will disappear.

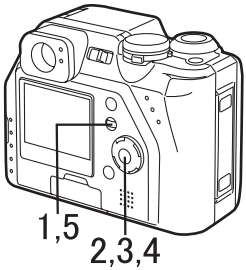
2,3



- In burst mode [□] or auto bracket, only the first recorded picture is displayed.
- Even when setting the auto review to [ON], it is not available in motion image mode [□].
- When recording in burst mode [□], auto bracket, TIFF or still picture with audio modes, the auto review is set to [ON].

Setting up the Operational Sound

It is possible to set the sound volume when the menu operations are done.



1 **Press the [MENU] button.**

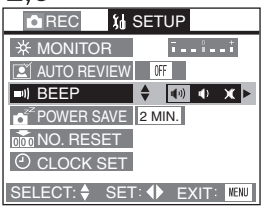
2 **Press ► to open the setup menu.**

3 **Press ▲/▼ to select [BEEP].**

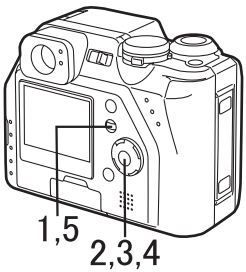
4 **Press ◄/► to adjust the operational sound volume.**

5 **Press the [MENU] button.**
- The menu will disappear.

2,3



Setting up the Power Save Mode



When setting this mode, the camera, if it is not operated for about 2, 5 or 10 minutes, it is automatically turned off.

1 **Press the [MENU] button.**

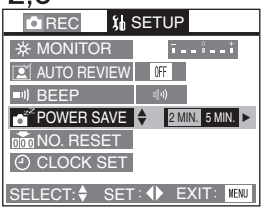
2 **Press ► to open the setup menu.**

3 **Press ▲/▼ to select [POWER SAVE].**

4 **Press ◄/► to choose the setting time.**
- You can choose among [2 MIN.], [5 MIN.] and [10 MIN.].
- If selecting [OFF], the power is not turned off automatically.

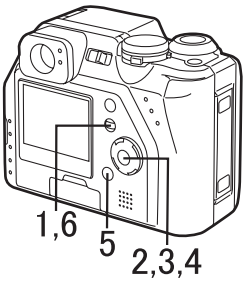
5 **Press the [MENU] button.**
- The menu will disappear.

2,3

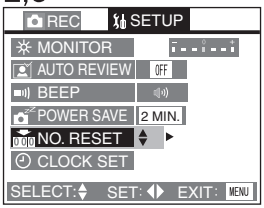


- If you want to cancel the power save mode, turn the power switch to [ON] again after turning it to [OFF], or press the shutter button.
- When using the AC adaptor, the power save mode is not available.
- In power save mode, or if the battery charge is low and you have to charge it, turn the camera off and connect the AC adaptor to the camera DC IN socket. If connecting the AC adaptor when the power switch is set to [ON], the camera may not function correctly.

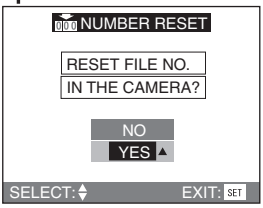
Resetting the File Number



2,3



4



As the file numbers are recorded sequentially by the camera, when you use some cards (SD Memory Card/MultiMediaCard), it may happen that the file numbers on your cards are not in order. Use this function when you insert a new card and you want to start recording from the file number 0001, or when you want to set the file numbers of the recorded cards in consecutive numbers.

[Preparation]
Set the operational mode dial to REC mode (single mode [□] or burst mode [□]).

1 **Press the [MENU] button.**

2 **Press ► to open the setup menu.**

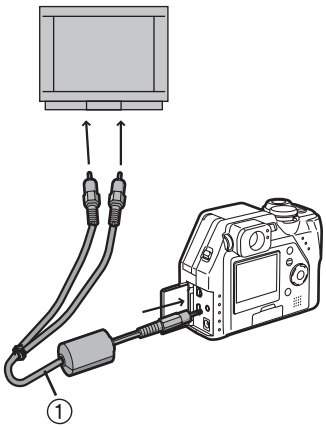
3 **Press ▲/▼ to select [NO. RESET] and then press ►.**

4 **When this message is displayed "RESET FILE NO. IN THE CAMERA?", press ▲/▼ to select [YES].**

5 **Press the [REVIEW/SET] button to set.**

6 **Press the [MENU] button.**
- The menu will disappear.

Playing Back Images with a TV Monitor



By connecting the camera to a television via the supplied A/V cable ①, it is possible to view and play back the recorded images.

[Preparation]
- Turn the camera and the television off.

1 **Connect the A/V cable to the A/V OUT socket of the camera.**

2 **Connect the A/V cable to the video in and the audio in sockets of the TV.**

3 **Turn the television on and select external input.**

4 **Turn the camera on and then set the operational mode dial to playback [▶].**
- The image is displayed on the television.

Yellow: to the video in socket
White: to the audio in socket

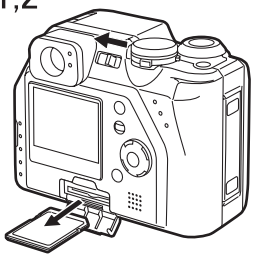
■ Viewing images in other countries

When setting [VIDEO OUT] on the menu, you can view images on the TV in other countries (regions) which use the NTSC or PAL system.
- Even if you set menu selection for [VIDEO OUT] to [PAL], the output signal is still NTSC system.

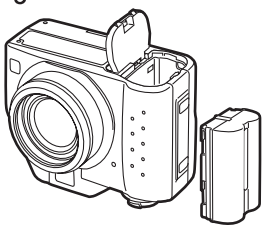
- Do not use any other cables except the supplied one.
- Read the TV operating instructions too.

After using the camera and after following steps, it is recommended to place it in the optional soft case, in order to protect it.

1,2



3



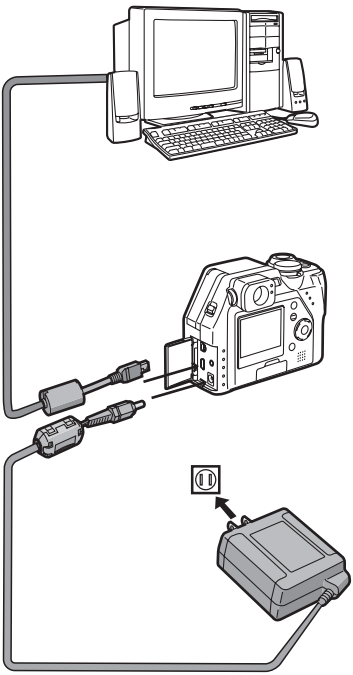
1 **Turn the power switch to [OFF]. (P18)**

2 **Eject the card. (P16)**

3 **Remove the battery. (P13)**

4 **Attach the lens cap. (P20)**

Connecting to a PC



[Preparation]

Only if using Windows® 98 or Windows® 98 Second Edition, start the supplied CD from PC and install the USB driver.

- For further information, read the supplied operating instructions for USB connection kit.

1 **Connect the camera to PC via supplied USB cable.**

- After inserting the memory card into the camera, set the operational mode dial to playback [▶] and turn the power switch to [ON].

[Windows]
The drive is shown on the [My computer] folder.

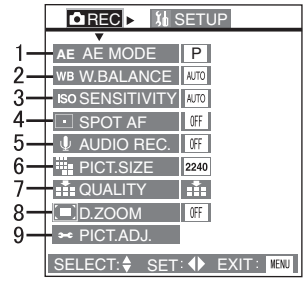
- If it is the first time you are connecting the camera to PC, the required driver is installed automatically in order to let the camera be recognized by the Windows Plug and Play, then it is shown on the [My computer] folder.

[Macintosh]
The drive is shown on the screen.

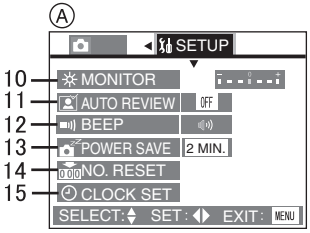
- When connecting to a PC it is recommended that you use the AC adaptor as the power source.
- When connecting the PC, the display of the LCD monitor is set to off. In this case, the status indicator lights. Moreover, when the PC accesses the card, the flash indicator also lights.

REC mode menu

- For items without number, refer to those with the same name.



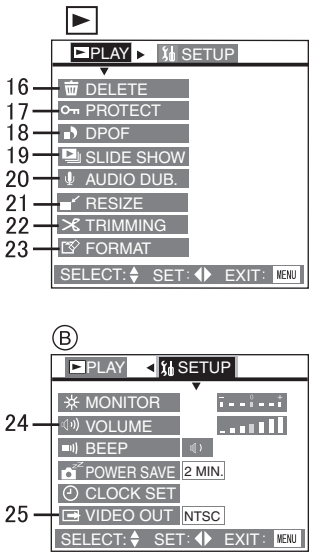
1 AE MODE (P40, P41, P42)
2 W.BALANCE (P52)
3 SENSITIVITY (P54)
4 SPOT AF (P55)
5 AUDIO REC. (P37)
6 PICT. SIZE (P38)
7 QUALITY (P39)
8 D. ZOOM (P33)
9 PICT. ADJ. (P51)



REC mode setup menu Ⓐ

10 MONITOR (P77)
11 AUTO REVIEW (P78)
12 BEEP (P79)
13 POWER SAVE (P80)
14 NO. RESET (P81)
15 CLOCK SET (P28)

The Menu Items (Continued)



Playback mode menu

- For items without number, refer to those with the same name.

16 DELETE (P64)
17 PROTECT (P69)
18 DPOF (P66)
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Cautions for Use

■ Cautions for Use

Keep the digital camera away from magnetized equipment (such as a microwave oven, TV, video game equipment, etc.).

- If you use the digital camera on or near a TV, images and sounds may be disturbed due to electromagnetic wave radiation.
- Do not use the digital camera near a cell phone because doing so may cause noise to adversely affect the images and sounds.
- Recorded data may be damaged, or images may be distorted by strong magnetic fields created by speakers or large motors.
- Electromagnetic wave radiation generated by a microprocessor may adversely affect the digital camera, causing the disturbance of images and sounds.
- If the digital camera is affected by magnetically charged equipment and does not function properly, turn the camera off and detach the battery or AC adaptor and then connect the battery or AC adaptor again. Thereafter, turn the camera on.

Do not use the digital camera near radio transmitters or high-voltage lines.

- If you record near radio transmitters or high-voltage lines, recorded images or sounds may be adversely affected.

Do not spray insecticides or volatile chemicals onto the digital camera.

- If the digital camera is sprayed with such chemicals, the camera body may be deformed and the surface finish may peel off.
- Do not keep rubber or plastic products in contact with the digital camera for a long period of time.

When you use the digital camera on a beach or similar place, do not let sand or fine dust get into the camera.

- Sand or dust may damage the digital camera or card. (Care should be taken when inserting and removing the card)

When you use your digital camera on a rainy or snowy day or on a beach, make sure that no water enters the digital camera.

- Water may cause the digital camera or card to malfunction. (Irreparable damage may occur)
- If sea water splashes onto the digital camera, wet a soft cloth with tap water, wring it well, and use it to wipe the camera body carefully. Then, wipe it again thoroughly with a soft dry cloth.

Do not use the digital camera for surveillance purpose or other business use.

- If you use the digital camera for a long period of time, the internal temperature increases and, consequently, this may cause malfunction.
- The digital camera is not intended for business use.

Do not use benzine, thinner or alcohol for cleaning the digital camera.

- The camera body may be deformed and the surface finish may peel off.
- Before cleaning the camera, detach the battery or pull out the AC adaptor from the electrical outlet.
- Wipe the digital camera with a soft, dry cloth. To remove stubborn stains, wipe with a cloth that is soaked in a detergent diluted with water and afterward finish wiping with a dry cloth.
- For storing or transporting the digital camera, place it in a bag or case lined with soft pads to prevent the coating on the camera body from being worn.

After use, be sure to take the card out, and detach the battery or pull out the AC adaptor from the electrical outlet.

- If the battery is left on the digital camera for a long time, the voltage drops excessively, and the battery will not function even after it is recharged.

■ Optimal Use of the Battery

The battery is a rechargeable lithium ion battery. Its ability to generate power is based upon the chemical reaction that takes place inside it. This reaction is susceptible to the surrounding temperature and humidity, and, if the temperature is too high or too low, the operating time of the battery becomes shorter.

Be sure to detach the battery after use.

Be sure to detach the battery from the digital camera. (If it is left attached to the digital camera, a minute amount of current is consumed even when the digital camera power is off) If the battery is left attached to the digital camera for a long time, discharge takes place. The battery may become unusable after it is charged.

Dispose of an unusable battery.

- The battery has a limited life.
- Do not throw the battery into fire because it may cause an explosion.

Always keep the terminals of the battery clean.

Prevent the terminals from getting clogged with dirt, dust, or other substances.

If you drop the battery accidentally, check to see if the battery body and terminals are deformed. Attaching a deformed battery to the digital camera may damage the camera.

■ Condensation

When condensation has taken place: Set the power switch to [OFF] and leave the digital camera in this condition for about 1 hour. When the camera becomes close to the ambient temperature, the fog disappears naturally.

■ Cautions for Storage

Before storing the digital camera, take the card out and detach the battery. Store all the components in a dry place with a relatively stable temperature. (Recommended temperature: 15 to 25 °C, Recommended humidity:40 to 60 %)

Digital camera

- Wrap it with a soft cloth to prevent dust from getting into the camera.
- Do not leave the camera in places that expose it to high temperature.

Battery

- Extremely high or low temperatures will shorten the life of the battery.
- If the battery is kept in smoky or dusty places, the terminal may rust and cause malfunctions.
- Do not allow the battery terminals to come in contact with metal objects (such as necklaces, hairpins, etc.). This can result in a short circuit or heat generation and, if you touch the battery in this condition, you may be badly burned.
- Store the battery in a completely discharged state. To store the battery for a long period of time, we recommend you charge it once every year and store it again after you completely use up the charged capacity.

Card

- When the card is being read, do not remove the card, turn off the power, or subject it to vibration or impact.
- Do not leave the card in places where there is high temperature or direct sunlight, or where electromagnetic waves or static electricity are easily generated.
- Do not bend or drop the card. The card or the recorded content may be damaged.
- After use, be sure to remove the card from the digital camera.
- Do not touch the terminals on the back of the card with your fingers. Do not allow dirt, dust or water to enter it.

■ LCD Monitor/Viewfinder/Lens Ring

LCD monitor

- In a place with drastic temperature changes, condensation may form on the LCD monitor. Wipe it with soft dry cloth.
- If the digital camera is extremely cold when you turn the power on, the image on the LCD monitor is slightly darker than usual at first. However, as the internal temperature increases, it goes back to the normal brightness.

Extremely high precision technology is employed to produce the LCD monitor screen featuring a total of approximately 110,000 pixels. The result is more than 99.99% effective pixels with a mere 0.01% of the pixels inactive or always lit. However, this is not a malfunction and does not affect the recorded picture.

Viewfinder

- Do not direct the viewfinder or lens to the sun. Internal components may be seriously damaged.

Lens ring

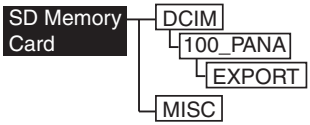
- Do not attach other conversion lenses on the lens ring; there is no mount to be used for the attachment.
- When you want to attach the tele conversion lens (DMW-LT52; optional) or wide conversion lens (DMW-LW52; optional), first of all, turn the lens ring counterclockwise. If the MC protector (DMW-LMC52; optional) is used, the lens ring can be mounted on the filter.
- If you push the zoom lever toward W during recording with the filter or conversion lens attached to the digital camera, 4 corners of the image may become dark (vignetting). For details, refer to the operating instructions of your accessories.
- Be sure to keep the lens ring attached to the digital camera so as to shut out unnecessary light.

■ SD Slide Show

If setting the SD slide show with the [SD Viewer for DSC] which is in the supplied CD-ROM, when playing back, the message “START SD SLIDE SHOW?” is displayed. Press ▲/▼ to select [YES] and press the REVIEW/SET button to start the SD slide show.

■ Folder Composition

When the memory card where data are recorded is inserted into a PC, the folders shown below will be displayed.



- In the 100_PANA folder it is possible to record up to 999 images.
- In the MISC folder it is possible to record the files that have been set with DPOF settings.

[NO MEMORY CARD]
Insert the memory card.

[THIS MEMORY CARD IS PROTECTED]
Cancel the memory card lock.

[NO VALID IMAGE TO PLAY]
Carry out playback after recording or after inserting the memory card with a recorded image.

[MEMORY CARD FULL]
Insert a new memory card or delete the useless data.

[REMOVE LENS CAP AND PRESS SET BUTTON]
Remove the lens cap and then press the [REVIEW/SET] button.

[MEMORY CARD ERROR]
Failed access to memory card.
Insert the card again.

[READ ERROR]
Data reading error.
Play it back again.

[WRITE ERROR]
Data writing error.
Turn the camera [OFF] and remove the card. Then insert the card and turn the camera back [ON]. Be sure camera is [OFF] before removing or inserting the card to avoid damaging the card.

[THIS PICTURE IS PROTECTED]
After cancelling the protect setting, you can delete or overwrite the image.

[THIS PICTURE CAN'T BE DELETED] / [SOME PICTURES CAN'T BE DELETED]
After cancelling the protect setting, you can delete the image.

[NUMBER OF PRINT IS OVER]
You have exceeded the number of images that can be set at once, with multi deleting, protect and DPOF settings.

[CAN'T BE SET ON THIS PICTURE] / [CAN'T BE SET ON SOME PICTURES]
If the image is not based on the DCF standard, it is not possible to set the DPOF.

[MEMORY CARD ERROR FORMAT THIS CARD?]
The format of this card cannot be recognized by the camera. Format this again with the camera.

Troubleshooting

1: The power does not turn on.

1-1: Are the battery and the AC adaptor correctly connected? Check the connection.

1-2: Is the battery sufficiently charged? Use a battery that has been sufficiently charged.

2: As the power is turned on, it turns off immediately.

2-1: Is the battery charge insufficient to operate the camera? Charge the battery or replace it with charged one.

2-2: Has condensation occurred? Carrying the digital camera from a cold place to a warm place could cause condensation to form inside the camera. Wait until condensation disappears.

3: The image cannot be recorded.

3-1: Is the memory card inside?

3-2: The operational mode dial is not set to REC mode.

3-3: There is no memory capacity left on the card. Before recording, delete some images.

4: The image is not displayed on the LCD monitor.

4: Is the LCD monitor set to off?

5: The LCD monitor is too bright or dark.

5: Adjust the brightness of the LCD monitor.

6: The display or images on the LCD monitor are not focused.

6: Set the REC mode dial to the mode corresponding to the distance to the subject.

7: The image cannot playback.

7-1: Is the memory card inside?

7-2: There is no image in the memory card.

7-3: The operational mode dial is not set to playback [▶].

8: The image is not displayed on the television.

8-1: Is the camera correctly connected with the TV? Check it.

8-2: Set the TV to video input mode.

9: When connecting to PC, images cannot be transferred.

9: Check that the camera is correctly connected to the PC.

Specifications

Digital Camera Information for your safety

Power Source:	DC 9 V
Power Consumption:	3.5 W (When recording with LCD Monitor to on) 2.7 W (When recording with LCD Monitor to off) 2.4 W (When playing back)

Effective number of pixels	3.9 Million Pixels
Image sensor	1/1.76 inch CCD, total pixel number 4,010,000 Complementary color filter
Lens	Optical 3× zoom, f=7-21 mm (35 mm film camera equivalent: 33-100 mm)/F2.0-2.5
Digital zoom	Max 2× (variable)
Focus	Auto/Macro Normal/Spot AF change
Focus range	Auto: 0.98 feet (30 cm) - ∞ Macro: 0.2 feet (6 cm) (Wide)/0.66 feet (20 cm) (Tele) - 1.64 feet (50 cm)
Shutter system	Electronic shutter + Mechanical shutter
Burst recording	4 frames/second, Max 8 frames (standard)/ 4 frames (fine)
Motion image recording	320 × 240 (with audio)
ISO sensitivity	AUTO/100/200/400
Shutter speed	AUTO mode/Program AE (ISO AUTO mode): 1/8 - 1/1,000 Program AE (ISO set)/Aperture-priority AE: 1 - 1/1,000 Shutter-priority AE: 8 - 1/1,000 Motion image mode: 1/30 - 1/1,000
White balance	AUTO/Daylight/Cloudy/Halogen/Fluorescent/Flash /White set
Exposure (AE)	Program AE, Aperture-priority AE (A), Shutter-priority AE (S) Exposure compensation (0.25 EV Step, -2 - +2 EV)
Metering mode	Multi/Spot
LCD monitor	1.8 inch low-temperature polycrystalline TFT LCD (110,000 pixels)
Optical finder	Real-image zoom finder (with dioptor adjustment) (-2.8 - 0.8 dioptor, field of view ratio 82 %)
Flash	Built-in flash flash range: (Wide) approx. 0.33 feet (10 cm) - 14.8 feet (4.5 m) (Tele) approx. 0.66 feet (20 cm) - 11.5 feet (3.5 m) AUTO, AUTO/Red-eye reduction, Forced ON, Slow sync./Red-eye reduction, Forced OFF
Microphone	Monaural
Speaker	Monaural
Recording media	SD Memory Card/MultiMediaCard

Recording size	2240 × 1680, 1600 × 1200, 1120 × 840, 640 × 480, 320 × 240 (Motion image mode)
Quality	TIFF/Fine/Standard
Recording file format	
Still Picture	JPEG (Design rule for Camera File system)/TIFF (RGB), DPOF corresponding
Still picture with audio	JPEG (Design rule for Camera File system) + 640 × 480 QuickTime Motion JPEG (still picture with audio)
Motion image	QuickTime Motion JPEG (motion image with audio)
Interface	
Digital	USB
Analog video/audio	NTSC/PAL Composite/Audio line output (monaural)
Terminal	
USB	5 pin Mini USB
Analog video/audio	Φ 2.5 mm jack
DC IN	EIAJ type 3 jack
Dimensions (W × H × D)	4.13 × 3.03 ×2.58 inch/105 × 77 × 65.6 mm (excluding the projection part)
Weight	Approx.10.9 oz/310 g (excluding memory card and battery) Approx.14.1 oz/400 g (with memory card and battery)

AC adaptor (Panasonic DE-877B) Information for your safety

Input	USA&CANADA	120 V～60 Hz, 0.3 A
	Foreign	110 - 240 V～50/60 Hz, 0.3 A
Output		9.0 V⎓1.0 A

Battery pack (lithium-ion)
(Panasonic CGR-S602A) Information for your safety

Voltage/capacity	7.2 V, 1400 mAh

Memo

Digital Camera Accessory System

Accessory#	Figure	Description
CGR-S602A/1B		Lithum Ion Battery
DMW-LA1		Conversion Lens Adaptor
DMW-LW52		Wide Conversion Lens
DMW-LT52		Tele Conversion Lens
DMW-LC52		Close-up Lens
DMW-LMC52		MC Protector
RP-SDH512 RP-SDH256 RP-SD128 RP-SD064B RP-SD032B RP-SD016B RP-SD008B		512 MB SD Memory Card 256 MB SD Memory Card 128 MB SD Memory Card 64 MB SD Memory Card 32 MB SD Memory Card 16 MB SD Memory Card 8 MB SD Memory Card
BN-SDCAPU/1B		SD USB Reader/Writer (compatible with MultiMediaCard)
BN-SDABPU/1B		SD PC Card Adaptor (compatible with MultiMediaCard)

*Please refer to page 15, concerning the battery charging time and available recording time.

*NOTE: Accessories and/or model numbers may vary by country. Please consult your local dealer.

Digital Camera Accessory Order Form

(For USA Customers)

Please photocopy this form when placing an order.

1. Digital Camera Model #_____
2. Items Ordered

Accessory #	Description	Price Each	Quantity	Total Price
			Subtotal	
			Your State & Local Sales Tax	
			Shipping & Handling	6.95
			Total Enclosed	

3. Method of payment (check one)

☐ Check of Money Order enclosed (NO C.O.D.SHIPMENTS)

☐ VISA Credit Card # _____

☐ MasterCard Expiration Date _____

☐ Discover Customer Signature _____

Make Check or Money Order to: PANASONIC ACCESSORIES

(Please do not send cash)

4. Shipping information (UPS delivery requires complete street address)

Ship To:
Mr.
Mrs.
Ms. _____
First Last

_____
Street Address

_____ _____ _____
City State Zip

Phone#:
Day ( ) _____
Night ( ) _____

TO OBTAIN ANY OF OUR DIGITAL CAMERA ACCESSORIES YOU CAN DO ANY OF THE FOLLOWING:
VISIT YOUR LOCAL PANASONIC DEALER
OR
CALL PANASONIC'S ACCESSORY ORDER LINE AT 1-800-332-5368
[6 AM-5 PM M-F, 6 AM-10:30 AM SAT, PACIFIC TIME]
OR
MAIL THIS ORDER TO: PANASONIC SERVICES COMPANY ACCESSORY ORDER OFFICE
20421 84th Avenue South Kent, WA. 98032

In CANADA, please contact your local Dealer for more information on Accessories.

Request for Service Notice

Please photocopy this form when making a request for service notice.

In the unlikely event this product needs service.

Request for Service Notice:
(USA Only)

- Please include your **proof of purchase.** (Failure to due so will delay your repair.)
- To further speed your repair, please provide an explanation of what wrong with the unit and any symptom it is exhibiting.

Mail this completed form and your Proof of Purchase along with your unit to:

Panasonic Services Company
1705 N. Randall Road
Elgin, IL. 60123-7847
Attn: Digital Camera Repair

Please write the displayed above Self Diagnostic number here.

PANASONIC CONSUMER ELECTRONICS COMPANY, DIVISION OF MATSUSHITA ELECTRIC CORPORATION OF AMERICA, One Panasonic Way Secaucus, New Jersey 07094

PANASONIC SALES COMPANY, DIVISION OF MATSUSHITA ELECTRIC OF PUERTO RICO, INC. Ave. 65 de Infanteria, Km. 9.5, San Gabriel Industrial Park, Carolina, Puerto Rico 00985

Panasonic Digital Still Camera Limited Warranty

Limited Warranty Coverage

If your product does not work properly because of a defect in materials or workmanship, Panasonic Consumer Electronics Company or Panasonic Sales Company (collectively referred to as "the warrantor") will, for the length of the period indicated on the chart below, which starts with the date of original purchase ("warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new or refurbished product. The decision to repair or replace will be made by the warrantor.

PRODUCT OR PART NAME	PARTS	LABOR
DIGITAL STILL CAMERA (EXCEPT ITEMS LISTED BELOW)	**1 (ONE) YEAR**	**90 (NINETY) DAYS**
CCD	**6 (SIX) MONTHS**	**90 (NINETY) DAYS**
RECHARGEABLE BATTERY PACK (IN EXCHANGE FOR DEFECTIVE BATTERY PACK)	**90 (NINETY) DAYS**	**NOT APPLICABLE**
SD MEMORY CARD (IN EXCHANGE FOR DEFECTIVE SD CARD)	**90 (NINETY) DAYS**	**NOT APPLICABLE**

During the "Labor" warranty period there will be no charge for labor. During the "Parts" warranty period, there will be no charge for parts. You must carry-in or mail-in your product during the warranty period. If non-rechargeable batteries are included, they are not warranted. This warranty only applies to products purchased and serviced in the United States or Puerto Rico. This warranty is extended only to the original purchaser of a new product which was not sold "as is". A purchase receipt or other proof of the original purchase date is required for warranty service.

Carry-In or Mail-In Service

For Carry-In or Mail-In Service in the United States call 1-800-272-7033.
For assistance in Puerto Rico call Panasonic Sales Company (787)-750-4300 or fax (787)-768-2910.

This warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or commercial use (such as in a hotel, office, restaurant, or other business), rental use of the product, service by anyone other than a Factory Servicenter or other Authorized Servicer, or damage that is attributable to acts of God.

THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. (As examples, this excludes damages for lost time, travel to and from the servicer, loss of media or images, data or other memory content. The items listed are not exclusive, but are for illustration only.) **ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY, ARE LIMITED TO THE PERIOD OF THE LIMITED WARRANTY.**

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the exclusions may not apply to you.
This warranty gives you specific legal rights and you may also have other rights which vary from state to state. If a problem with this product develops during or after the warranty period, you may contact your dealer or Servicenter. If the problem is not handled to your satisfaction, then write to the warrantor's Consumer Affairs Department at the addresses listed for the warrantor.

PARTS AND SERVICE WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY ARE YOUR RESPONSIBILITY.

Customer Services Directory **(For USA Only)**

For Product Information, Operating Assistance, Literature Request, Dealer Locations, and all Customer Service inquiries please contact:

1-800-272-7033, Monday-Friday 8:30am-8pm EST.

Web Site: http://www.panasonic.com
You can purchase parts, accessories or locate your nearest servicenter by visiting our Web Site.

Accessory Purchases:

1-800-332-5368 (Customer Orders Only)
Panasonic Services Company 20421 84th Avenue South, Kent, WA 98032
(6 am to 5 pm Monday - Friday; 6 am to 10:30 am Saturday; PST)
(Visa, MasterCard, Discover Card, American Express, Check)

Product Repairs

MAIL TO :

Centralized Factory Servicenter
Panasonic Services Company
1705 N. Randall Road,
Elgin, IL 60123-7847
Attention: Digital Camera Repair

Please carefully pack and ship, prepaid and insured, to the Elgin Centralized Factory Servicenter.
Customer's in Puerto Rico, please ship or carry in to location below ("Service in Puerto Rico").

Service in Puerto Rico

Matsushita Electric of Puerto Rico, Inc. Panasonic Sales Company/ Factory Servicenter:
Ave. 65 de Infanteria, Km. 9.5, San Gabriel Industrial Park, Carolina, Puerto Rico 00985
Phone (787) 750-4300 Fax (787) 768-2910

As of January 2002

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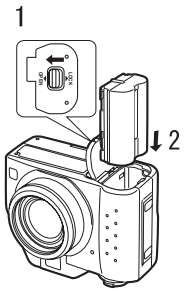
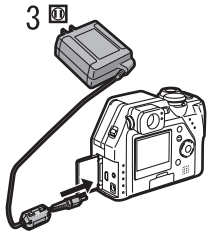
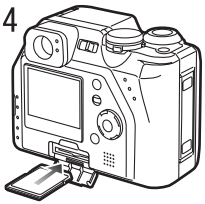
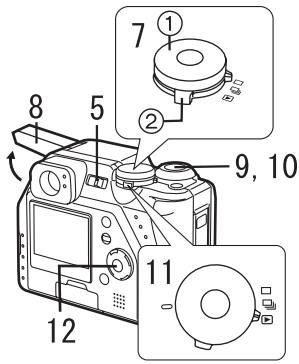
Spanish Quick Use Guide/Guía española para el uso rápido









Prepare las siguientes piezas.
- Cámara
- Batería
- Tarjeta de memoria
- Adaptador AC

Verifique que el interruptor de alimentación esté en [OFF].

1 **Desplace la palanca hacia la dirección para que se abra la tapa de baterías.**

2 **Inserte la batería en la cámara.**

3 **Para cargar la batería, conecte el adaptador AC a la cámara.**

4 **Introduzca la tarjeta de memoria en la cámara.**

5 **Ponga el interruptor de alimentación a [ON].**

6 **Defina la fecha/hora.**

7 **Ajuste el disco del modo operativo ② y el disco del modo de grabación ①.**
- Ajuste el disco del modo operativo al modo único [□] o al modo ráfaga [□].

8 **Deslice la palanca del flash para abrir el Flash.**

9 **Pulse el botón del obturador a mitad para arreglar el enfoque.**

10 **Pulse el botón del obturador para sacar una imagen.**

[Reproducción]

11 **Ajuste el disco del modo operativo a la reproducción [►].**

12 **Pulse ◄/► para reproducir la imagen que quiere ver.**

Panasonic Consumer Electronics Company,
Division of Matsushita Electric Corporation of America
One Panasonic Way, Secaucus, NJ 07094

Panasonic Sales Company ("PSC")
Division of Matsushita Electric of Puerto Rico, Inc.
Ave. 65 de Infanteria, Km. 9.5, San Gabriel Industrial Park, Carolina, Puerto Rico 00985

Panasonic Canada Inc.
5770 Ambler Drive, Mississauga, Ontario, L4W 2T3

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